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PELVIC VARICOCELE*

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In looking over the field for a subject on which to write, it was rather difficult for me to select a topic, but since I have been interested for the past decade in varicosity of the broad ligaments in the female, and since there is practically nothing written, even in the modern text books, on gynecology, and yet it is such a common occurrence leading to all kinds of symptoms ranging from pain and hysteria to melancholia, I feel that it is due time for this subject to be brought before us for discussion.

As stated, there is practically nothing in the text books, but on thorough investigation of literature, we find that there is quite a bit written on pelvic varicocele, by a few writers with practically all using the same references.

Richet, in 1854 made a careful study of pelvic veins, and called attention to tubo-ovarian varicocele. In 1887, Dwight of Boston, reported the first case in America. In 1888, Dudley of New York, published his classical paper with a report of four cases. Since that time, a few papers and case reports have been made. Costano, in 1913 began to study pelvic varicocele, since which time he has written much of great value. However, with his main etiological factor I can not agree, though his Argentine method for radical cure seems very plausible. (In 1924 Polak and Phelan published a very thorough and concise resume under the title, "Pelvic Varicosities.")

Emge, in 1921-25 reported his observations of thirty-five cases in his first monograph, and twenty four in his last, with with much valuable data, and concludes that varicose veins are due in the vast majority of cases to damage of the fibro-elastic suspensorium, and that conservative measures are usually sufficient to cure the condition.

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ANATOMICAL POINTS AS A PRE-DISPOSING FACTOR

Veins have three coats the same as arteries, though the muscular coat is not nearly so well developed as that in the arteries. Veins have valves, but not so in the pelvic veins. This pre-disposes them to over distention. At certain points the support of their walls is insecure, this being very true in the ovarian circulation, more so than in the uterine venous channels. As you know, the ovarian veins and their pampiniform plexuses are supported by a delicate network of intrinsically interwoven strands of elastic fibers and delicate, smooth muscle fibers. This delicate support is attached to the peritoneum at one end and the basal ligaments of the pelvic fascia at the other. This is not strong enough to withstand a great deal of pressure or a prolonged vascular distention. The veins swing in a kind of peritoneal hammock. Just before they reach the pelvic brim, they are subject to pressure from the sigmoid on one side, and the cecum on the other. The ovarian circulation is more subject to varicosity than the uterine. Remembering your anatomy, the right ovarian vein empties into the inferior vena-cava, while the left empties into the renal vein which it joins at right angles without a protecting valve. There, however, is a valve where the right enters the inferior vena-cava, this being the only valve in the venous circulation of the pelvis. Whenever there is stasis in the ovarian circulation, the long column of venous blood, extending from the ovary to the vena-cava, or left renal vein, gravitates to the most dependent portion; namely, the pelvic course of the vein. Any added strain on the ovarian circulation necessarily aggravates the embarrassment already existing by virtue of anatomical peculiarities of the ovarian veins. Due to this condition a part of the

outflowing venous blood is thrown upon the adjacent peritoneal veins resulting in pressure affecting the nerve fibers causing deep-seated pain commonly spoken of as ovarian neuralgia.

ETIOLOGICAL FACTORS

Varicosities of the female pelvis are practically always observed during the menstrual and child-bearing period. Skene stated that he never saw a case under twenty-five or over sixty years of age; therefore, menstruation and parturition are important etiological factors. Knowing the changes taking place in the tissue during, and following acute pelvic inflammatory conditions and cellulitis, connective tissue organizes and scar tissue contracts, fibrous bands are formed that interfere with the venous return, leaving lake-like areas within the veins partially blocked by these fibrous bands, the result of which is varicosities. Dudley divided the etiological factors into two groups; constitutional and mechanical.

CONSTITUTIONAL

Subinvolution of the ovarian and uterine vessels, prolonging pelvic engorgement, relaxation of the pelvic tissues, poor general health, abnormal changes in the venous walls due to inflammatory conditions and aggravated by the anatomical facts of absence of valves; the result is an increase of pressure in the pelvic veins when the patient is in the erect posture. Costano, in his extensive study, concluded that varicosity is due to infection, and practically always syphilitic in origin.

MECHANICAL

The anatomical peculiarities of the ovarian vein; the left more frequently involved because it empties into the renal vein at right angle and has no valve. "This is also true in the male varicocele, the left being more often involved." The length of the ovarian veins habitual constipation with intestinal pressure, uterine displacement, and probably the most frequent cause is pregnancy. Subinvolution prevents the circulation from returning normal, the circulation remaining in the state of stasis for a long time after which there may be a permanent distention of veins. Next in importance to pregnancy is uterine displacement, stasis leading to the formation of vicious circle, the stasis aggravates the pathological condition of the uterus, resulting in an increase in the size and weight, causing hypertrophy and hyperplasia, and finally fibrosis. This also affects the ovaries in a similar manner, causing a sclerocystic condition leading to menstrual disturbances.

SYMPTOMATOLOGY

There may be a vast number of symptoms, but they are practically all subjective. The most important is pain which is, to begin with, similar to those of varicocele in the male. The patient wakens in the morning refreshed and without pain. After assuming the erect posture, the dull, bearing-down, aching pelvic pain begins. Usually it is located in the left side in the extreme lateral portion of the pelvis because the left ovarian veins are usually the ones involved. As the day grows older, the pain grows worse, and is reflected to the lower back; inner and back part of thighs. Quite often after long standing, the patient complains of vesical and rectal tenesmus. Occasionally the pain etxends up the left flank and back. The pain usually subsides when the patient rests in the recumbent position. There is frequently dysmenorrhea, pain coming on several days before menstruation begins, this is usually of menorrhagic type.

Some times there is also an increase in the menstrual cycle, menstruation being at shorter intervals, at first there being ovarian congestion causing over stimulation. As the result there is hyperplasia of the endometrium, fibrosis preventing the development of the graafian follocles and interfering with the blood supply. The flow ultimately becomes irregular and scanty. Quite often there is leukorrhea of the hydrorrhea type.

The objective symptoms are few and not always present nor dependable. Sometimes the vagina is of a bluish tint, moist and of thick appearance. There may be varicosities of the vagina and vulva, also of the thighs. There is usually a large retro-displaced uterus with edematous ovaries and a history of one or more labors. While it is true that the majority of cases are diagnosed after the abdomen is opened and, in some cases it is not then made, as in the dorsal position the venous distention is relieved and the condition is overlooked. If the uterus is pressed between the hands one will usually see the veins filling up, even in the dorsal position. So in making a diagnosis after a complete *history* is taken, it is necessary

to put the patient in different positions. If a bimanual examination is made, with patient in upright position, in a fairly thin abdomen one will feel a soft, compressable mass in the left tubo-ovarian region. By assuming the dorsal posture with hips elevated, the doughy mass disappears.

TREATMENT

PALLIATIVE AND SURGICAL

The greatest lesson that we have learned, to date, is to prevent rather than cure. Hence, the care of school and working girls before marriage is very important. Proper posture as well as clothing, exercise, fresh air, food and attention to the intestinal tract and menstruation is very important. Habitual constipation should receive special attention and not be allowed to persist. Expectant mothers should always have proper pre-natal as well as good obstetrics and post-natal care. As soon after delivery as possible, mothers should be taught to lie on right side with left limb drawn up, and on abdomen, to prevent retro-displacement. While there is subinvolution, many of these patients become neurasthenics because of pain, and on account of failure of a diagnosis and proper treatment of these cases many of them are driven from our profession into the hands of chiropractors and osteopaths. The monkey walk and knee-chest position for fifteen or twenty minutes, two or three times a day in retro-displacements, where the uterus is not fixed, is very valuable. Local treatment is important to clear up discharge. These are simply aids and not cures.

As to surgical treatment there have been many measures employed; resection of veins; tying ligated ends together and suturing openings in broad ligaments; multiple ligation of veins and ventral fixation; shortening of the sacro-uterine and round ligaments; resection of the ovaries and tubes; hysterectomy; and the Argentine method, which Costano advises, (exposing the illio-ovarian ligaments, bringing the varicose utero-ovarian veins into view, ligating them above and below with cat-gut, and dividing each vein between the ligatures.) The Argentine method, to me, seems very plausible, as it relieves the pressure high up and guards against recurrence, however, I have never used this method. The majority of my cases have been due to retro-displacement and a first degree prolapse. I have always obtained good results by clearing up the cervical infection, (which most of them have) restoration of the pelvic floor, shortening of the sacro-uterine ligaments, usually using the Noble's method and Gilliam's suspension of round ligaments, taking particular pains to bring the uterine end of the broad ligament higher than the pelvic end.

In conclusion;

1. Many of the obscure pelvic conditions are due to varicosities.

2. Many anatomical peculiarities predispose to pelvic varicosities.

3. The most important causes are, focal infection, pregnancy, and uterine displacements.

4. The principal symptom is pain, aggravated by the erect posture and alleviated by assuming the dorsal posture.

5. The condition is curable with the proper surgical treatment.

In cases in which there have been pathological conditions I either resect or ligate the utero-ovarian veins and do the suspension.

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INDUSTRIAL SURGERY*

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I have been asked to present a subject to you this evening, with which most of you are already more or less familiar. That is "Industrial Surgery", which, at some time or another, demands the cooperation of all medical specialists. Industrial surgery can perhaps best be defined as that part of the practice of medicine which deals with the treatment of injuries and other conditions arising out of, or in the course of industry. It is, or should be, therefore, a separate division in the practice of medicine, and in its broadest sense should embrace both the prevention of industrial accidents and occupational diseases, as well as their treatment after their occurrence. It also should include a

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general supervision of health conditions among all employees of industry and the members of their families. The subject of prevention of industrial accidents and diseases, however, is so great, and applies to so many different industries, each with their own separate problems, that it is thought best not to attempt to go into it here. The principles underlying the treatment of the actual industrial injury do not differ from those of general surgical practices elsewhere, and it should be borne in mind that fundamentally an injury is an injury, whether it occurs in a street car, a store, on the street or in the factory. There are, however, certain qualifications and certain specific knowledge which an industrial surgeon should have over and above those possessed by the general practitioner. These, I will try to show you.

The surgeon engaged in general practice oftentimes does not make the best man for the industrial organization; this, altho it is very necessary that the industrial surgeon have a good working knowledge of the principles of general surgery. The general surgeon is frequently handicapped by the fact that he is in general practice, and that he tends to rely too much upon the statements made to him by his patient. I do not mean by this that all industrial accident cases should be considered as liars or malingerers. I do mean, however, that the surgeon should make his examination and should arrive at a tentative diagnosis before the statements of the industrial accident case should be taken into consideration. Nowadays, with the application of our compensation laws and the daily occurrence of public liability cases, generally with the hope, or at least the thought of future financial settlement, we very often find, what for want of a better name, I shall call the unconscious malingerer. The conscious malingerer, of course, should receive no consideration. The unconscious type of malingerer, however, who may be suffering from some constitutional or mental disease, deserves our greatest efforts, both for his own sake and for the sake of industry. If not disabused of his "idee fixe", in time he may go on to an actual permanent disability which is as great as if it were due to an actual organic condition. All of us have seen cases in which it was impossible to decide as to the extent or the duration of disability following industrial and public liability accidents. In numerous cases of this character, after a cash settlement has been made, these men have often times improved and ultimately secured a fair, or excellent, functional result without further treatment. There is still another class of accident case, which, for want of a better name, may be called a traumatic neurosis. This class partakes of the nature of both the conscious and unconscious malingerers and generally follows accidents which are accompanied by loud explosions, fires, etc. The patient may, or may not have received any demonstrable injury. If he has received one, his symptoms are much more extensive than the nature of the injury would lead you to expect. These conditions may be considered the result of several inter-acting factors; they may be due to a desire for compensation; they may be due to fright during the actual occurrence, or they may be due to the fear of the results of the accident; such as disfigurement, permanent disability, etc. Again, they may occur in those thin, anemic, nervous individuals who are generally below par—who may have trouble in securing and holding a position, and who may have family troubles, due to their inability to support their families as well as other men in the same walk of life do. Therefore, in order to justify himself before his family and the world, and to receive sympathy, a man of this type is often more or less permanently disabled following an accident which is minor in nature. I do not believe that these cases are caused entirely by the hope of financial settlement, altho this thought may greatly intensify the disability. Thus, any or all of these mental reasons must be considered in arriving at a prognosis.

No discussion of industrial surgery would be at all complete without at least a mention of back injuries and fractures of the extremities. Most of you will remember that some years ago, during the time of "Trust Busting" and the "Big Stick", the railroad surgeons of this country recognized a distinct clinical entity which they called the "Railroad Spine." It appears to me that we are now developing what may be called an "Industrial or Public Liability Spine." In perhaps twenty-five percent of the cases of claimed back injuries with which I have come in contact during the past eight years, there has been actual bony injury to the spine, which could be demonstrated

upon examination or by the X-ray. In this connection I wish to call your attention to something which has been rather surprising, and this is that there is very often no apparent agreement between the bony injury found upon examination, or X-ray, and the apparent severity of the accident itself. It is surprising to note how easily a large, muscular, adult may sustain a fracture of one or more of the lateral processes of the vertebrae, or a compression fracture of the body of one or more vertebrae. I have seen cases involving the fracture and more or less separation of the lateral process from the body of the vertebra which were caused by nothing more severe than a sudden muscular exertion or strain while the man's body was in a twisted position. My files also show a case in which an employee fell about four feet and landed upon his buttocks. In this accident he sustained a fracture of the crest of the right ilium and a compression fracture, with slight lateral displacement of the body of the fourth lumbar vertebrae. Oftentimes, as in this case, these men complain of very slight pain and attempt to continue at work. The great importance of a correct and prompt diagnosis in cases of this character can easily be seen, as if not promptly and intelligently treated, these cases will almost always have more or less permanent disability. On the other hand, I have seen cases of apparent severe crushing injury in which there was very little, or no bony injury. Therefore, in these back injuries little dependence can be placed upon the apparent severity of the accident; in fact, so little dependence is placed upon it that an X-ray is always requested in back injuries occurring among our men, whether it is seemingly indicated or not. Another 25 to 30% of these back cases will have no demonstrable lesion, either muscular or bony, and it is believed that the greater number, of this class of cases, are either very much exaggerating their symptoms or are malingerers.

These also require prompt attention and often times close observation over a long period of time to establish a diagnosis. The remaining 45 or 50% of cases of back injury, it is believed, have an actual muscular or bony lesion, which, however, has no connection with the alleged injury, but which are due to sickness, among which osteo-arthritis and tuberculosis are perhaps the outstanding causes or to one of the mental types as set out before. These cases are often times perfectly honest in their claim for as far as they know their condition was caused as a result of an accident. Perhaps the greater number of these cases, upon X-ray examination, show evidences of a proliferative osteo-arthritis. We, of course, know that an accidental injury, in the presence of a focal infection can cause such a condition. Fortunately, however, we also know that a generalized vertebral osteo-arthritis, with more or less rigidity of the spine, cannot develop within a few days, or within a few weeks. Here again promptness and correctness of diagnosis is all important.

Just a few comments regarding fractures of the extremities. First; simple fracture of the femur; particularly when in the lower third of the bone. A good many of these fractures are exceedingly difficult to reduce and it has been noted that after two or three attempts at replacements have been made and two or three fixative plaster casts have been applied, they are, it is believed in far too many instances subjected to open operation. As a matter of fact it is not believed that over one percent. of these cases should be opened up. My records over the past eight years show only one case that was subjected to early open operation, and it is not believed that this operation was justified. These cases almost invariably, by the application of Steinmanns' pins or ice tongs and extension on a double inclined plane can be reduced and a satisfactory functional result secured. I, of course, do not mean to state that in cases of long standing, or of mal, or non-union, or in compound comminuted fractures, open operation should not be resorted to. It is, however, surprising to note what almost instant relief from pain and what generally excellent, functional results may be obtained by this method of treatment. It is also rather surprising that in view of the results generally obtained, this method is not more generally resorted to. In cases of vicious, non or mal union it is believed that open operation, with application of massive beef bone plates, rather than autogenous bone grafts or metal plates, is the preferred method of treatment. Lanes' plates usually give trouble if allowed to remain, or require a second operation for their removal; on the other hand, it is often very difficult to secure autogenous grafts of sufficient size

and strength to accomplish the purpose. It is pretty generally established, it is believed, that autogenous grafts are useful only as fixative and stimulative, or perhaps I should say, proliferative agents. In the greater majority of cases the massive beef bone grafts will furnish better fixation and the irritation of the operation together with the freshening of the ends of the fractured bone will furnish the necessary stimulative or proliferative effect. In all of these cases early passive motion, and a little later guarded active motion of the adjacent joint should be instituted. It is believed that cases treated in this manner come to an earlier and generally better economic recovery, than by any other method of treatment.

In fractures of the upper extremities, it is desired to call your attention to the rather common Colles fracture, with which you are all familiar. This rather simple fracture, due perhaps partly to its frequency of occurrence, causes a loss of time and a resultant partial permanent loss of use, out of all proportion to its apparent seriousness. It seems surprising, but this fracture is seemingly rather difficult to reduce correctly. At least it has been so in numerous cases coming under my observation. A number of cases have been seen of some months standing, which have supposedly been reduced, but which show a resultant partial disability; almost invariably, upon X-ray examination an impaction of the fragments can be demonstrated. It has been found that in these cases if the impaction is thoroughly broken up immediately following the accident, a satisfactory result is generally rather easily secured.

Another condition found in the upper extremities which gives rise to an excessive loss of time and an excessive partial disability is the dislocation of the Semi-Lunar bone. This condition, fortunately, is not of very frequent occurrence. When it does occur, however, it is very often rather disabling, and it may be, and fairly frequently is, accompanied by a fracture of the Scaphoid bone. In the diagnosis of this condition the bone may often times be felt on the inner or flexor surface of the wrist. In numerous cases, however, if the displacement is not marked, an X-ray in the lateral position is necessary to establish the diagnosis. The condition generally causes considerable pain, and if not corrected almost always results in from 75 to 100% loss of use of hand. The dislocation is frequently irreducible and almost always so when accompanied by a fracture of the scaphoid with forward displacement of the fragments; the bones should then be removed. Removal is also indicated in case the injury is compound. Removal will generally reduce the resultant partial disability to ten or twenty percent loss of use of the hand as compared with 75 to 100% loss of use when not reduced or not removed.

I am aware of the fact that this paper is very incomplete, but in a discussion of this character, I have only attempted to touch upon the "high spots," not trying to go into details concerning a subject as all inclusive as this one is. No claim for originality is made, as these remarks are based upon various articles in the literature, each dealing with a particular one of the subjects I have tried to call your attention, and upon my observation of, and conversations with, various surgeons throughout the State and upon the results of my personal experience during the past few years.

VISUALIZATION OF GALL BLADDER AND DIAGNOSIS OF GALL BLADDER CONDITION FROM AN X-RAY POINT OF VIEW*

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Before the era of present day examination of gall bladder through the Graham method of visualization the only direct sign of gall bladder pathology was the visualization of gall stones, on the X-ray film, and a thickened wall of a gall bladder shadow which was considered pathological. Gall stones, however, could not be visualized in more than about 25 to 30 per cent of cases. The pathological gall bladder with its thickened wall was also not very often visualized and in many instances, as we know now, through the aid of cholecystography, these shadows were not of the gall bladder at all. Not having very many direct ways of ascertaining gall bladder pathology through direct methods we had to fall back upon indirect signs and observations. These signs were of great importance, and to a great degree, are helpful in doubtful cases even to-day.

*Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting Oklahoma State Medical Association, Association, Tulsa, May, 1928.

These indirect signs, as observed, were as follows:

1. A definite pyloro-spasm.

2. A perfectly normal stomach and duodenum with pressure sensitiveness confined to the gall bladder area.

3. Hyperperistalsis of the stomach with considerable residue at 6-hour despite the hypertonicity and hyperperistalsis.

4. Persistent pressure of gas in the hepatic flexure.

5. Very high position of the hepatic flexure indicating the presence of adhesions.

6. Deformity of pylorus, especially a concavity due to pressure of a large gall bladder.

These and other indirect signs have been since proven unreliable and present in individuals who had no gall bladder disease. The most important and epoch-making method in roentogen study of the gall bladder is the discovery of cholecystography by Graham, Cole and Copher, by means of Sodium Tetraiodophenolphtalein.

Cholecystography enables us to study both the physiology and pathology of the gall bladder based on the normal or disturbed functions of the gall bladder. In order that the gall bladder may be visualized through the administration of the dye it is necessary, as has been pointed out by Graham and his co-workers, that the liver excrete the dye, that the hepatic, cystic and common ducts be potent, that the gall bladder have the ability of emptying and filling itself, that the latter once filled be of a size to contain a sufficient amount of dye to give rise to a shadow, and that the gall bladder be able to concentrate the dye. If these conditions are fulfilled we have a normal functioning gall bladder. Any deviation from these essential requirements denotes abnormal or disturbed function.

When a hollow viscus is rendered visible by X-rays through an increase of the opacity of its contents its characteristics are revealed through the following points of study.

1. Location.
2. Relations.
3. Content.
4. Outline or form.
5. Capacity or size.

Through cholecystography we have learned that the anatomical description of the location of the gall bladder being constant is erroneous. The fact is that the normal gall bladder may be observed lying at any point from the level of the 9th rib, posteriorally, to the true pelvis in the vertical direction. This variability in position would account for many cases of gall stones overlooked in the past because of the tendency to regard the position of the organ as of far greater constancy than is truly the case, the stones being missed through lying away from this accepted position.

The gall bladder is subject to those forces which affect the position of other abdominal organs, namely, posture, respiration, pressure of other structures. The determining factor, then, is body habitus of the individual. Observations of the visualized gall bladder have abundantly confirmed this view, and fairly well correspond to Mill's observation on the relation of body habitus to gastro-intestinal form and function.

RELATION TO OTHER STRUCTURES, AS TO THE SPINE AND KIDNEY, DUODENUM, ETC.

Content. The opaque gall baldder should be filled evenly and completely. Gross defects of filling indicate a pathological condition.

Outline of Form. The gall bladder ranges from a circular through various ovoid forms to an elongated pyriform shape. The size and shape of the visualized gall bladder are subject to an equal or almost greater degree of variation than its position, and may yet be entirely normal as far as function is concerned.

Capacity or Size. The normal gall bladder alters in size at different hours of cholecystographic examinations. It is largest at the 12-hour period, (we use the oral method) it is less at the further period of examination through the process of dye concentration. When food is given, especially fatty food, its size diminishes to a great degree. Capacity to alter in size is a measure of the elasticity of the gall bladder wall and knowledge of this quality is helpful in appraising the condition of the organ. If the shadow of the gall bladder is of standard density, regular in outline, homogeneous, and decreases in size after a fatty meal—it may be relied upon to denote a normal functioning organ.

CHOLECYSTOGRAPHIC CRITERIA OF THE PATHOLOGICAL GALL BLADDER

1. Non-visualization of gall bladder.
2. Faint visualization.
3. Delayed appearance of gall bladder.
4. Deformity of gall bladder.
5. Gall stones.
6. Persistence of gall bladder shadow.
7. Excessive size of gall bladder.

1. Diseases of the liver must be very extensive. Obstruction of the intrhepatic duct system, the cystic or common ducts. Catharral jaundice—irrespective of its cause is always followed by a non-visualization of the gall bladder.

2. Faint visualization of the gall bladder is but a degree of gall bladder deficiency of which non-visualization is the complete expression. It may be due to the same causes that produce non-visualization, and also be brought about by partial obstruction of the cystic and hepatic ducts. With faint visualization there is nearly always some evidence of lack of distensibility or elasticity of its wall manifested by constancy in size or only sluggish change. There is little or no variation in shadow density at the various periods of examination.

3. Delayed appearance is due to a parenchymatous condition of the liver, which retards the excretion of the dye.

4. Deformity may be congenital or acquired. The numerous variations in course, position and relation of the neck of the gall bladder should be ignored in the face of a normal cholecystographic behaviour.

5. In relation to radiography there are two kinds of gall stones, opaque and non-opaque. The first contain enough calcium to give a sharp shadow. The non-opaque are almost composed of organic material, chiefly, cholesterol. They are visualized radiographically only when situated in a medium of greater or less density than themselves. They are sometimes visualized as "negative shadows." It is not always that we can detect stones in the gall bladder through the visualization method. In many instances the greater opacity of the dye in the gall bladder will obscure the presence of the stone. However, the presence of the stones in the gall bladder will always cause a disturbed function of the gall bladder.

6. The persistent shadow of the gall bladder is probably due to a failure to evacuate its dense contents and should be looked upon as evidence of disturbed function.

7. Excessive size is brought about by dilatation and relaxation of the muscle wall of the gall bladder. However, there are some large gall bladders, whose normal function is evidenced by normal behaviour as far as cholecystographic rules are concerned.

SUMMARY

1. Cholecystography is an accurate measure of the functional capacity of the gall bladder. The functional capacity is decreased in proportion to the intensity and duration of a disease process which may have involved it.
2. If the gall bladder fills, concentrates, alters in size and empties itself, it is evident that we deal with a normally functioning gall bladder.
3. Non-visualization (especially when the dye is administered intraveneously) speaks for a diseased pathological gall bladder.
4. Faint cholecystograms indicate impairment of function.
5. The Graham-Cole method of visualization of the gall bladder is the greatest advance in diagnosis that has been given to the medical profession in recent years.

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THE DEFORMED HAND*

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In presenting the subject of the deformed hand before this section today, we can only touch upon some of the most important principles. Up until the last few years, the abdomen and its surgical troubles, has held the center of interest; recently other branches of surgery are coming into their own. It is with a desire to impress upon you the importance of the preservation of the hand, that this paper is presented.

The hand is our most important member. Three outstanding characteristics differentiate us from the animals:

1. Our ability to reason.

*Read before the Section on Surgery and Gynecology, Annual Meeting Oklahoma State Medical Association, Tulsa, May, 1928.

2. Our ability to stand upright and walk.

3. The intricate function of the hand, or the thumb finger, known as prehensile use.

Our nearest neighbor in the animal kingdom, the monkey, has all the grasping functions, but has not the so-called prehensile use of the fingers. He cannot be taught to write, and use his fingers as we do. It is not alone his brain, but his hand which prevents him from carrying out this important accomplishment. The human hand has probably aided man in the development of civilization almost as much as his brain. The term Manus or hand, has become the root for many of our

Hand before operation. Deep burned scar involving tendon sheaths.

words such as manipulation, etc. It then becomes the duty of the surgeon to do everything in his power to maintain this hand, and to preserve for this hand, its every normal function. What are the outstanding functions of the hand?

1. The prehensile motion; the finger and thumb grasp.
2. The ability to clasp the hand.
3. Pronation and supination.
4. The flexibility of the wrist.

Hand after operation. Note graft.

It has been said that the prehensile function should constitute fully one-third of the evaluation of the worth of the hand. The ability to open and shut the hand should constitute one-third of its value, and that the ability to flex and extend the wrist is worth not over ten or fifteen percent of hand function, provided the grasp has not been interferred with. It is necessary to state these facts so we may get a better understanding of what we should attempt to accomplish in our preservation of the hand. Consequently in all of our reconstruction work, we must try to preserve—

Hand open, showing complete freedom of motion.

1. Prehensile function.
2. Ability to open and shut the hand.
3. Supination and pronation.
4. Wrist function.

The Etiology of the deformed hand can readily be divided into three great classifications;

1. Congenital deformities.
2. Deformities due to disease such as spastic paralysis, infantile paralysis, the various forms of rheumatism, and contractures such as Dupuytren, etc.
3. Those due to injuries.

Those due to injuries are classified into

1. Those due to loss of skin.
2. Those due to infections.
3. Those due to fractures.
4. Those with loss of tendons.

Hand closed.

In our paper today we will take under consideration only those due to injuries, and these of necessity, somewhat briefly.

1. The hand which has lost some of its covering. Namely, those on which some skin plastic is necessary, and those not associated with loss of tendons or the loss of bony structure.

(a) Skin lost by burns.
(b) Skin lost by crushing injuries.

We will take up as our first class, the management of the child's burned hand, some cases of which we will show directly by slides. As soon as the child is brought to us, if it is brought in the very early stages, namely in the first few hours of its injury, all skin which has been raised to a blister is removed. The hand is then dressed with a two and one-half percent Tannic acid dressing, the hand being held fixed, the fingers to be kept in extension. This dressing should be soaked every few hours and not removed for several days. Provided the destruction has not been too deep, in all probability a great deal of the deep skin will be saved in this manner. However, at the end of ten days or two weeks, all dead skin should be removed by sharp dissection, being very careful to avoid injury to the tendons or tendon sheaths, or small nerves

Shows extensive injury to back of hand, with exposure of tendon sheaths, tendons and wrist joint.

of the hand. The raw surface should then be Thiersch grafted to get prompt healing. In almost one hundred percent these Thiersch grafts will take. In two weeks, be the child ever so young, he can be allowed to freely use the hand. At night the hand should be held in extension or in the opposite direction of the contracture. We mention extension, because the usual burns occur on the palm of the hand, as the child usually receives the injury by grasping some hot object. Fully two or three months should be allowed to elapse or even longer. In the meantime every effort should be made to correct contracture by a properly applied splint at night. We then will leave the splint off for a month or so, allowing the hand to contract, to show us the degree we have to face. Do not leave it off longer, as the contracture will become permanent. This should never be allowed to occur.

All scar tissue should now be resected; the free edges of the defect turned over so as to make the defect one-third larger, and an accurately measured full thickness graft be sewed in place and held firmly with sea sponges. We have been able to

Shows the back of the hand after the graft has been applied.

get a very large percentage of full thickness takes with very excellent soft grafts resulting. This treatment is ideal in children under five years of age. It shortens the time and makes things very much easier than to attempt pedicle grafting or pocket grafting which is so ideal in the adult. In the first place it is almost impossible to hold the child's hand in position, second—it is almost impossible to avoid infection, and third—the full thickness grafts grow almost ideally in children.

The treatment of loss of large amounts of skin in adult hands differs somewhat from our treatment of children. If we desire to replace relatively small amounts of skin over the knuckles, over the back of the hands or over the wrists, and not in the palm of the hands, we resort to full

Shows the extent of motion in this hand. Because of involvement of the wrist, there is some stiffness in the wrist, but the fingers are fairly good.

thickness type of graft. Full thickness grafts are especially ideal over knuckle joints. Whenever we wish to replace the palm of hands in adults, we do it with thinly cut pedicle grafts. Pedicle grafts as a class should be cut just as free from areola tissue as possible. The ideal method is after removing all scar tissue from the palm of the hand, or whatever place it may happen to be, is to attach the hand to a thinly cut pedicle from the abdomen and leave it sutured in situ for three weeks, and then cut the pedicle loose. This method is equally applicable to loss of skin either from burns or trauma, but this is used after all healing has taken place and several months have elapsed to allow scar tissue to contract fully.

Shows an extensive burn in the palm of the hand, which had been operated on unsuccessfully.

The early treatment of loss of skin from the hand is most important. As soon as infection has cleared up, that is, in a week or ten days, following removal of slough, we Thiersch the defect. The purpose of Tiersch graft is to cover all raw area, preventing infection and scar tissue. Thiersch graft should never be used in the hand as permanent graft but merely a temporary affair to hasten healing. In taking our Thiersch graft we should be careful not to destroy a future site for a permanent graft.

The reconstruction of the hand which has become more or less useless following severe deep infection of the tendon sheaths presents a very serious problem. For many, many weeks and months, active massage, passive massage, heat in all its forms, and every attempt of use, should be insisted upon. If in the neighborhood of a good physiotherapy organization, well directed and extensive physiotherapy is indicated. These measures however, should never be undertaken until all evidences of infection have been eradicated. That means that the hand should be dormant for several months. Following all these things we are permitted with great caution to dissect our tendons, and tendon sheaths surrounding the dissected tendons, provided the sheaths have been destroyed, with fat grafts. The reconstruction of these hands presents our most serious and least gratifying results.

Shows end results with graft in place.

Disability due to mal-union of fractures presents so big a field I am only going to explain a few generalities. In the first place, mal-positon of the phalanges as a rule, unless the mal-position be very severe, does little damage. Mal-position of the metacarpae however, often causes a very serious loss of function due usually to destruction of direct tendon alignment or because the tendons must go over an

Shows baby's hand with a deep burn in the palm of the hand.

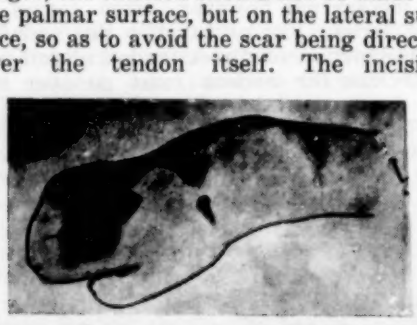
angle, lengthening tendon distance. When these things are present, it is of course necessary to re-fracture and properly reduce these mal-aligned bones. These cases as a rule come to us with not alone

mal-union and tendon distortion, but likewise general tendon fixation due to disuse of the hand, and we have not alone the loss of a member confronting us, but the loss of the hand as a whole.

Injuries associated with the loss of one or more tendons present our most difficult class of plastics. Bushnell of California has worked out a very intricate and wonderful method of nerve and tendon repair of the hand. I believe that in early prophylaxis, with proper early surgery, we have our best opportunity.

Shows end results following full thickness free graft. This is a typical Wolf graft and was very successful.

Many hands come to us with tendons severed. These should not be carelessly sewn up in the office, but should be made hospital cases, and either under local or general anesthesia, ample incisions be made. If the tendons be severed on the finger, the incision should not be made on the palmar surface, but on the lateral surface, so as to avoid the scar being directly over the tendon itself. The incision



Shows the remnants of a hand which was not amputated, because it allows this boy to dress and undress with this hand. It merely shows the importance of saving every bit of hand possible, under all circumstances.

should be ample, and the tendon should be carefully approximated with six or eight fine silk sutures all around the tendon; the tendon sheaths being pierced with these sutures. No sutures should be placed thro the tendon itself. If the tendon be severed in the neighborhood of the pulley, never cut the pulley. Repair the tendon as best you can, and then later if necessary, you can either stretch or cut part of the pulley, as it is always extremely difficult to make new pulleys. With the loss of more or less tendon, particularly when in the palm of the hand or the fingers, it will be necessary to replace this tendon loss. Live tendons from somewhere else in the body, always offer the best material. The extensors of the 2nd, 3rd and 4th toes are excellent; these tendons being long, strong, and easily removed. We have used these tendons in several cases with no ill effect whatever to the foot. We will show some of these on slides today.

In conclusion we wish to state again the hand is our most important member and should be given every consideration; every endeavor should be made to restore every bit of it. The hand, be it ever so poor is still a hand. The last picture we show is hardly a hand, yet this man begged most sincerely to retain it, stating he could smoke with it and use it in buttoning his clothes.

FOOD ALLERGY — WITH SPECIAL REFERENCE TO ECZEMA, URTICARIA, ABDOMINAL PAIN AND MIGRAINE*

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The relation between protein hypersensitiveness, and hay fever and asthma, has been well established. These two syndromes, however, are not the only ones due to a specific sensitivity to protein. Certain types of eczema, urticaria, migraine, abdominal pain, and some forms of epilepsy, are due to a peculiar specific hypersensitiveness to food or drugs.

ECZEMA

By no means are all cases of eczema due to hypersensitiveness to foods, but it appears to be the sole cause or a contributing factor in many. The medical profession is just beginning to recognize the important role food sensitivity plays in the cause of eczema. Whether we consider eczema as a unitary disease or as a pathologic skin reaction due to a variety of local or constitutional disturbances, the fact remains that symptoms may be

relieved following the application of several widely diverse measures. The dermatologist obtains good results in about 30 to 40 per cent of the cases of eczema with the use of the X-ray and local applications. The pediatrician relieves about the same per cent of children who suffer from eczema, by manipulation of carbohydrates and protein in the diet, but there is at least a third or more that do not respond to such measures. Many of these cases are hypersensitive to food or drugs, and on removing the food from their diet, or prohibiting the use of the drugs to which they are specifically sensitive, their symptoms disappear, and frequently in a very short time. Foods that cause eczema are usually common ones, such as wheat, eggs and milk, but eczema may be due to any food.

I am inclined to feel that many physicians, including the dermatologist and pediatrician, have attempted the allergic study and treatment of eczema, but have discontinued its use, not because it was incorrect in principle, but because their interpretation of positive and negative tests was wrong, or their methods of eliminating positive foods from the diet was not well done. Protein tests in eczema patients are very difficult to interpret. Immediate readings must be made and are most important. Four hour and also twenty-four hour readings must be made, however, as they are also important. Many reactions are not prominent and do not appear until after twelve to twenty-four hours, and then they are only mild patches of eczema.

In advising patients concerning the elimination of food, one must use the greatest care. For example, a patient who is sensitive to wheat must be told of the various food products in which they might obtain wheat, or otherwise poor results will be obtained because the patient is constantly taking small amounts of wheat. The treatment of food eczema is simple, namely, the removal of offending food from the diet. It is not uncommon to see a child who has suffered from eczema for years to be entirely relieved of the trying disease by the simple process of removing certain food from the diet.

Eczema is very frequently associated with hives, asthma or hay fever. It is only one of the manifestations of specific sensitization. The ability to become specifically sensitive is inherited[1]. The father or mother may have eczema, and the son or daughter have asthma, hay fever or hives, and the cause of all the conditions may be the same food, for example, wheat or eggs in the diet. The manifestation of the sensitivity appears on the skin in the one case, and the bronchial tubes or nose in the other.

It is difficult for patients, and likewise for doctors, to understand why they may be perfectly free from eczema for a while, and then while on practically the same diet, suffer from it. In typical allergic eczema this actually happens. The same thing, however, is true in typical hay fever or asthma patients. For example, a child may have asthma due to feathers, and sleep on the same feather pillows night after night, and yet only have an attack of asthma once every two weeks, two months, or at even longer intervals. Vaughan[2], in trying to explain this condition, suggests that the chemistry of the body may be in the state of "Allergic Equilibrium" or "Balanced Allergic State." The mechanism of the equilibrium, or lack of equilibrium, of course, is not completely understood. He points out that an over dose of the same protein may disturb the balance with consequent precipitation of symptoms. For example, one may daily ingest quantities of milk, to which he is sensitized, without symptoms, but when he adds lettuce or beans, to which he is also sensitive, he will develop allergic symptoms. Neither one alone would produce trouble, but both together will. Focal infections, toxic absorption from constipation, acute infections, or nervousness, in a similar way might serve to precipitate the cause of allergic symptoms that otherwise would not appear, if the specific food was not being taken in the diet. This will also hold true in asthma, hay fever, migraine, and other allergic diseases.

The method of determining the offending food is similar to the testing done for asthma and hay fever[3]. Details concerning the testing will not be discussed, due to the lack of time, but such methods can be found in previous articles by the writer[4].

Four cases relative to this condition will be briefly discussed.

Case 1. Baby B. M., female, age 5½ months. Has suffered from severe eczema over the entire body for the past three months. Her father had eczema as a child. There is no other family history of allergy.

She was normal at birth except that she had an atresia of the stomach, which had to be operated on, and was done when she was two months of age. At this time she was taken from the breast and put on modified cow's milk. The eczema developed while she was in the hospital and has continued ever since.

Skin tests could not be well done on account of the eczema being so extensive, but they were first done, as shquld always be in any allergic condition, and apparently wheat was positive. Intradermal tests showed the following reaction:

WHEAT ****

The question naturally arose concerning the source of the wheat this child was obtaining, if wheat was the cause of her eczema. It was found that the milk she was taking was obtained from cows fed on wheat bran. On changing the milk to milk from cows fed on pasture her eczema cleared up in a very short time.

Case 2. R. T. W., boy, age 10 years, who has suffered from eczema since he was three months of age, and since he was fourteen months old has been a sufferer of a severe type of asthma.

His mother reports that his skin has never at one time during his life been entirely free from eczema.

He was sensitive to the following proteins:

Giant ragweed	****
Short ragweed	****
Western ragweed	****
Western water hemp	****
Amaranthus retroflexus	**
Amaranthus spinosus	**
Bermuda	**
Timothy	****
Johnson	**
Eggs	*
Chicken feathers	***
Goose feathers	**
Duck feathers	***
Canteloupe	****
English walnut	****
Hazelnut	****
Hickory	****
Filbert	****
Pecan	****
Olives	**
Tomatoes	***
Flaxseed	***

This boy was placed on asthmatic precautions and was desensitized with the pollens to which he was sensitive, and all of the foods to which he was sensitive, excepting tomatoes, were removed from his diet. His asthma cleared away but his eczema persisted. At the end of six months he was rechecked, and at that time tomatoes were also removed. Tomatoes were not removed in the beginning inasmuch as we had to take from his diet so many vitamin bearing foods. On the removal of tomatoes, however, his eczema cleared away in three or four days and he has been entirely free since.

FIG. NO. 1.

INFANTILE ECZEMA DUE TO FOOD

Case 3 illustrates the association of asthma and eczema, which is common, some of the foods being the primary cause of eczema and acting as a secondary factor in the cause of asthma. It is interesting to note the quick relief from eczema symptoms on removal of the food.

Case 4. Mrs. F. P. F., a woman, age 25, who has suffered from seasonal hay fever complicated with a perennial type of hay fever, for eight years, and who occasionally has attacks of asthma. For nine months prior to coming to the Clinic she suffered with eczema on both hands, more severe, however, on the right. Various types of therapeutic agents, from ointments to ultra-violet light, had been used throughout most of the nine months, but without relief.

Her history was filled with the allergic tendency. Her father has hay fever and asthma, and her child developed asthma when but a few days old.

Skin tests revealed reactions to the following proteins:

Amaranthus retroflexus	**
Giant ragweed	****
Short ragweed	***
Western ragweed	***
Orris root	***
Wheat	*

Almond	**
Oyster	**
Peanuts	**
Lactalbumin	**
Celery	**
Beans	**

She was placed on a restricted diet, basing our judgment on the positive food findings, with complete relief from her symptoms in about four weeks.

Case 1 is typical of eczema in a young middle aged lady, the cause of which is a specific sensitivity to food. Treatment is extremely satisfactory when the food is removed from the diet. By no means are all cases due to a specific sensitivity to protein, but many are. Patients complaining of the symptom which is designated as eczema, who give a familial history of allergy (asthma, hay fever, urticaria, migraine or eczema), should be thoroughly investigated from the standpoint of allergy as a possible cause of their symptoms.

Case 2. Mrs. K. K., housewife, age 34. She has been a sufferer of seasonal hay fever for three years, and eczema for the past seven years. The eczema has been of a weeping type and for the past four years she has been required to wear a bandage on her arms.

Protein tests revealed the following:

Bermuda	**
Wheat	****
Tomatoes	****
Orris root	***
Cheese	**
Wheat leucosin	****
Duck feathers	**
Celery	**

She came to the Clinic during the Bermuda season and desensitizing against Bermuda for her hay fever symptoms was suggested. However, she was starting on her vacation and it was not done, but she was advised to leave tomatoes and wheat out of her diet, and change her face powder to a non-orris root one.

In thirty-six hours after the foods to which she was specifically sensitive were removed from her diet she was not only free from her eczema, but also from hay fever symptoms, and since that time, being a period of four years, her eczema has appeared only on such occasions as she partook of foods to which she was specifically sensitive, which has only been five or six times. The foods to which she was sensitive were probably playing a secondary part in the cause of her hay fever symptoms, but were the sole cause of her eczema. Her hay fever had always appeared just during the Bermuda season. She has never been desensitized, and has remained free from her hay fever, although Bermuda pollen was the chief factor.

Eczema cases due to a specific sensitivity to food must first be thoroughly and carefully tested, and after the foods to which they are sensitive are determined, great care must be used in the absolute elimination of these foods, if good results are to be obtained, but treatment is simple and is satisfactory in the majority of allergic eczemas.

URTICARIA

Hives are most common in childhood and are a constant problem for the pediatrician, but they may occur at any age. They sometimes appear in the form of a very fine rash, spoken of as nettle rash. They may appear as large urticarial wheals, involving deeper structures than the nettle rash type. In other cases still deeper layers of the subcutaneous tissue are involved, causing rather marked swelling of the soft parts, and this is spoken of as angioneuroticedema.

The first type mentioned, nettle rash, is probably always due to a specific sensitivity to some protein, and usually the offending protein can be found. In the second type mentioned the specific cause can be found in about fifty per cent of the cases, but in the third, angioneuroticedema, the cause can be found in only about fifteen to twenty per cent.

Urticaria some times persists daily for weeks or months at a time, while in many cases it comes and goes. Some common foods, such as eggs, wheat and milk, may be the cause, but urticaria is more commonly due to uncommon foods, such as lettuce, celery, radishes, chocolate, fish, etc. Hives frequently appear a few minutes after the food is eaten but it is not uncommon for them to occur twelve to twenty-four hours after the food to which the patient is specifically sensitive, is taken.

Since many cases of urticaria are due to food sensitivity, routine testing for protein sensitivity should be done. However, in all cases careful investigation should be made concerning the possibility of absorption of toxins from foci of infection or from the intestinal tract. Treatment is frequently very simple, namely, the

elimination of the food to which the patient is specifically sensitive.

A typical case of urticaria in childhood is here summarized:

Case 1. M. C., a girl, age 5, has had hives almost constantly, either a few or many, on the body since she was six months old. She also has suffered from some eczema and slight attacks of asthma.

Skin tests revealed the following:

Whole egg	****
Egg yolk	**
Cheese	*
Milk	*
Peas	**
Tomatoes	**
Rhubarb	**
Canteloupe	**
Bananas	**

The mother had noticed that the child was unable to take milk without abdominal distress, and from time to time had removed milk from her diet. The child was not a breast fed baby and for that reason had always been on cow's milk.

Removal of the foods to which she was specifically sensitive cleared up her urticaria in a few days time, and likewise the eczema and the tendency towards asthmatic attacks disappeared.

Case 2. Miss G. P., a nurse, age 34, has suffered from attacks of hives off and on since she was a very small child. During the last twelve years there has been associated with her hives a congested nose, which would always be worse when she would be at home and would work in the kitchen.

The following reactions show the results of protein tests:

Whole wheat	****
Wheat globulin	****
Wheat leucosin	***
Coffee	****
Tomatoes	***
Lima beans	**
Hickory nut	****
Pecan	****
Filbert	****

Removing the offending foods from her diet relieved the patient of urticaria, and likewise the congested nose. In all probability the increase in her nasal symtoms when she was at home working in the kitchen were due to the fact that she would be working with flour, and probably also with coffee.

There is nothing much more distressing in adult life than chronic urticaria. Like eczema, relief may be obtained some times by purgation or by semi-starvation, even if all the foods to which they are specifically sensitive are not removed. For example, a patient may be sensitive to wheat and eggs, and have hives due to a combination of both, and have freedom from symptoms when either one is removed from the diet. One is justified in testing every case of urticaria for protein sensitivity whether it be angioneuroticedema or nettle rash, since from our experience, and the experience of other allergists, it appears that the predisposing factor in at least 66 2-3 per cent of them is a specific sensitivity to foods. We have our share of cases in which from cutaneous reactions we are unable to show any evidence of protein sensitization but this failure no more invalidates the hypothesis that specific protein sensitivity is the predisposing factor than does the failure to relieve all asthmatics, or to observe positive skin tests, disprove the allergic theory of asthma. In the cases that are not found positive it may be that they are not dependent on allergy, or it may be that we have not tested with the proper proteins, or that the refinement of the test proteins is not as it should be, or that our methods are not delicate enough.

It is well known that whole wheat protein or whole milk protein may fail to cause skin reactions, when individual proteins that enter into the composition of the wheat or the egg will produce reactions that point the way to relief of symptoms. Separate proteins of many other substances may come into use for testing and by their more accurate reactions decrease the number of cases of eczema, urticaria or migraine, for which a cause can not be found, thus making them more amenable to treatment.

MIGRAINE

That many cases of migraine are due entirely or in part to specific food protein is well established. A specific sensitivity to food should always be carefully considered in cases of sick headache, whether typically migraine or otherwise, who give a familial history of asthma, hay fever or eczema, and especially so if the patients themselves are bothered with such conditions. In these cases, as in other types of food allergy, it is usually difficult to elicit by history any specific reaction to the food protein. We have found that diet based on the positive food reactions found by testing will free about thirty per cent of the cases of migraine of symptoms. It

is the writer's belief that when better material for testing is made and more delicate methods for testing are used, that in many cases in whom we find negative reactions today, positive reactions will then be obtained, and treatment based on such positive reactions will free the patients from symptoms.

The following cases will serve as examples:

Case 1. Mrs. M. P., age 36, came to the Clinic complaining of periodic attacks of severe headache, usually occurring on one side of the face and head, and also practically always associated with nausea. The attacks would last from a few hours to two or three days.

Her mother had asthma, her maternal grandmother had hay fever, and one brother had hives.

Protein tests revealed the following:

Wheat	***
Celery	**
Lettuce	***
Shrimp	**
Cauliflower	*
English walnut	****

She was advised to absolutely eliminate all the foods to which she was found sensitive, from her diet, and on doing so she has remained free from her headaches during the past two years.

Case 2. Mr. H. G., age 22, came to the Clinic complaining of:

(1) Frequent head colds during the winter since 12 years of age.
(2) Perennial congestion of the nose for the past 2 years.
(3) Migraine since 12 years of age.

Family History: Maternal grandmother had migraine, mother had migraine, one maternal aunt with migraine, one sister with hay fever and asthma, one brother with hay fever, one brother with migraine, and a nephew with migraine.

Protein tests revealed the following reactions:

Giant ragweed	***
Short ragweed	***
Western ragweed	***
Amaranthus retroflexus	**
Amaranthus spinosus	**
Western water hemp	**
Bermuda	***
Timothy	***
Orris root	***
Duck feathers	***
Goose feathers	***
Chicken feathers	***
Horse dander	**
Cattle hair	**
Cat hair	*
Whole wheat	****
Flaxseed	*
Blackberry	*
Turnips	*

The elimination of the animal epithelial, and desensitizing with the pollens relieved his hay fever. Removal of the foods from his diet, to which he was specifically sensitive, has entirely freed him from migraine during the past seven months, which has been the first freedom he has had during the past twelve years.

ABDOMINAL PAIN DUE TO ALLERGY

Abdominal pain due to specific sensitivity to food, both in adult life and children, is much more common than generally considered, and is usually overlooked and ignored by most physicians. Children frequently complain of abdominal pain after eating certain articles of diet, such as eggs, wheat and milk. In some cases in children, in which the diet is not complicated, it is not difficult to detect the food that is causing the pain. However, in adult life where such foods are incorporated in many different ways in the diet, it is quite impossible at times to be sure which foods cause the discomfort. This is especially true of wheat, which may be the cause of severe abdominal pain of many years duration.

Rowe[5] reports several cases of abdominal pain due to allergy, and states that he believes abdominal allergy is very much more common in both mild and severe forms than is generally appreciated. The writer has seen cases so sensitive to eggs that a small piece of cake or cornbread in which eggs were used in baking, would cause marked intestinal symptoms, even to the extent of producing diarrhea.

Food intolerances due to sensitization to common foods, such as eggs, wheat and milk, are often present in babies and very young children. In like manner sensitization to any other food, even that of foods taken by the mother and obtained by the baby through the mother's milk, causes distress. Food sensitization may develop any time in life, as we have observed cases in whom symptoms did not develop until the late forties or fifties. We have observed a number of cases of abdominal pain simulating colitis, appendicitis and other abdominal conditions, due to a specific sensitiviy to one or more foods, both in children and adults. Physicians should not take too lightly the his-

tory sometimes given by patients that certain foods cause abdominal pain, nausea or diarrhea, and parents should be careful about forcing children to eat food that is disliked by them, for fear they may be specifically sensitive to such food.

Case 1. M. C., a girl, age 5, has suffered severely from abdominal pain with vomiting whenever eggs were added to her diet since she was eighteen months of age. At times the nausea would be associated with diarrhea. The mother soon learned that eggs could not be tolerated and watched carefully that they were eliminated from her diet. On a number of occasions she obtained food containing small amounts of egg and developed symptoms. At four years of age she developed asthma, and was brought to our Clinic for the purpose of determining the cause of her asthma.

Protein tests revealed the following positive reactions:

Duck feathers	***
Goose feathers	****
Cat hair	**
Giant ragweed	****
Short ragweed	**
Western ragweed	***
Eggs	****

In this case the egg was evidently the sole cause of her abdominal pain and diarrhea, and if it remained in the diet, would be, in my judgment, a secondary factor in the cause of asthma. Keeping the diet free from eggs and eliminating the animal epithelial has given the patient complete relief from both asthma and abdominal pain.

Case 2. Mrs. C. M. M., a woman, age 54, complained of severe abdominal pain associated with hives and hay fever. The attacks were periodic in type and were many times so severe that morphine had to be given for relief. Periodic attacks of abdominal pain had persisted for the past six years, but during the last year were so severe she had lost fifty-four pounds in weight. An exploratory laparotomy was done, as a surgeon in one of our larger clinics in the East suspected cancer, but found no abnormality in the abdomen.

Skin tests revealed:

Wheat	****
Giant ragwood	****
Short ragweed	****
Orris root	****

Removal of wheat from the diet has given this woman entire freedom from her pain and hives during the past sixteen months. She has regained her weight entirely, and desensitizing with pollen has eliminated her hay fever.

EPILEPSY

There are a number of authentic cases of epilepsy on record whose trouble is entirely due to protein sensitization. It is my judgment that a case of epilepsy with an ancestral history of hay fever or asthma, or who suffers from such conditions himself, should be carefully studied from the standpoint of food sensitization as a possible cause of the epilepsy. In our records are a few cases in which it seems quite possible that food is playing a definite part in the cause of the epileptic attacks.

Case 1. P. J., age 14, came to us on account of his asthma, from which he had been suffering since he was two years of age. At seven years of age he developed attacks of epilepsy and hives, which have gradually become more severe.

His father had asthma and his paternal grandmother had hay fever. He had one brother with eczema.

On testing he was found sensitive to the following:

Duck feathers	****
Goose feathers	***
Chicken feathers	**
Bermuda	**
Eggs	***
Milk	**

Removal of the foods from his diet has eliminated the hives and decreased the number of epileptic attacks.

Ralph H. Spangler[4] states that the etiology of essential, or so-called idiopathic epilepsy, points more and more, as recent investigations are recorded, to the probability that the immediate cause of epileptic convulsions arises from a disturbance of metabolism, and also states that the fact that allergy results in attacks of epilepsy in some individuals cannot be denied and certainly is worthy of consideration when we come to the treatment of this little understood and perplexing symptom complex of disturbed metabolism.

Clinically, the predisposing factor in many cases of eczema, migraine, urticaria, certain forms of abdominal pain, and at least a small per cent of essential epilepsy, is a specific sensitivity to food protein. In an unpublished paper, which will appear in the American Journal of the Medical Sciences, the writer[5] offers evidence in which it appears that biologically, in the

linkage, asthma, hay fever, urticaria and migraine are interchangeable. The following three family trees were given in the article mentioned, to show the relation between asthma, hay fever, eczema and migraine.

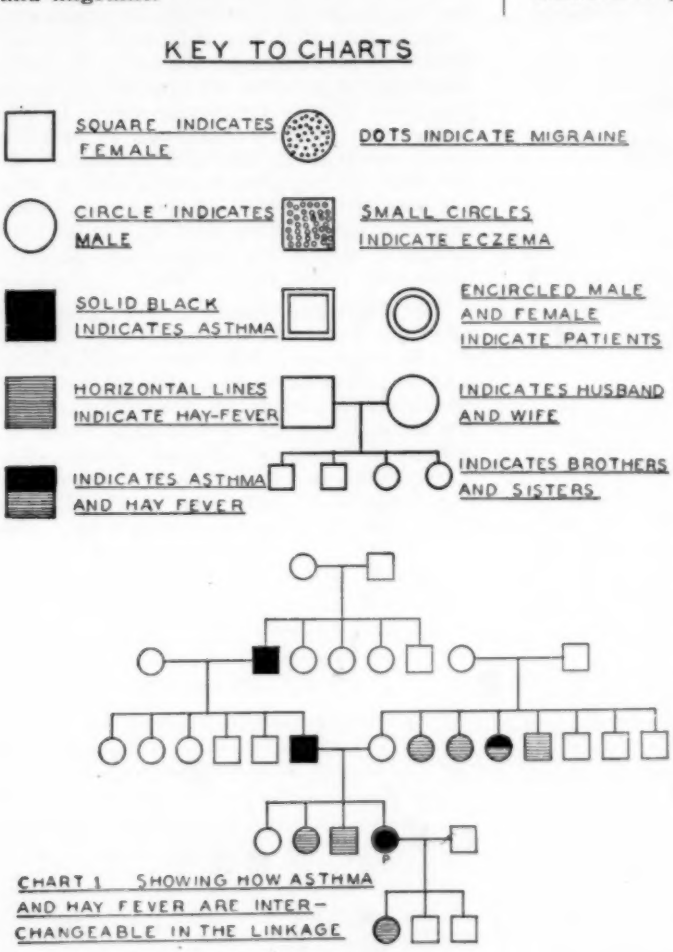

CHART 1 SHOWING HOW ASTHMA AND HAY FEVER ARE INTERCHANGEABLE IN THE LINKAGE

In the pedigree as shown in Chart 1, one will note that the grandmother gave birth to three daughters and three sons, only one of whom developed an allergic condition, this being a daughter. This daughter married a man who did not manifest any form of allergy. There were three sons and one daughter born, and of the four, one son had hay fever, the daughter had hay fever, and the other son had asthma. This asthmatic son mated with a woman without allergic symptoms. From the union we find two daughters and one son, of whom only the son showed evidence of allergic symptoms, which were manifested in the form of hay fever. It is also noted that on the grandfather's side of the family there were two uncles with hay fever, one with hay fever and asthma, and an aunt with hay fever. There is a possibility that the paternal grandfather, inheriting from the same germ plasm that his brothers and sisters did, might have developed allergic symptoms if he had lived longer, as he died in the fifties. From the ancestral tree it certainly appears that asthma and hay fever are interchangeable in the linkage.

In Chart 2 we find a patient whose father and mother both had migraine and whose paternal grandmother and maternal grandfather also had migraine. This patient has five brothers and one sister, of whom one brother has seasonal hay fever, one brother has perennial hay fever and migraine, and one brother has migraine. One brother is married and his wife has no allergic symptoms. From this union we find two males, one of whom has migraine. The patient who is an asthma and hay fever sufferer has one paternal uncle with migraine and one paternal aunt with migraine. The paternal aunt with migraine has a daughter without allergic symptoms, but she is a child and has lots of time yet for symptoms to appear. One paternal aunt has no symptoms, but she has a daughter with seasonal hay fever and hives. This aunt is still a young woman and has plenty of time for allergic symptoms to appear, which would complete the chain. It will be noted that the migraine grandparents produced children with migraine and these children produced hay fever, migraine, urticaria, eczema, and asthma in their children. From this pedigree, and from many other similar cases, we are led to conclude that asthma, hay fever, migraine and urticaria are interchangeable in the linkage.

This case is an interesting one since from the history we find that our patients come from common ancestors six generations ago. The patients are four in number, a father with eczema, a mother with seasonal hay fever, and from this union came three children, one with seasonal hay fever, eczema and asthma, and another, asthma. The third child, a boy, died of diabetes when an infant. The father of the two children who are patients had a brother with asthma, two brothers with eczema, and a sister with asthma, and this sister gave birth to two boys with eczema. The mother of the father was an asthmatic. The grandfather of the mother of our two children who are patients, had asthma, but we can find no history in the mother or the father of the mother of our two allergic children. However, this mother without symptoms might have developed symptoms if she had lived longer, as we have seen patients who developed typical allergic symptoms as late as 75 years of age. The allergy in this family is being transmitted from both sides, and they gave a definite history of being relatives, knowing that they are from the same grandfather six generations ago. From this tree, and others which we have, we are led to believe that asthma, hay fever and eczema are interchangeable in the linkage.

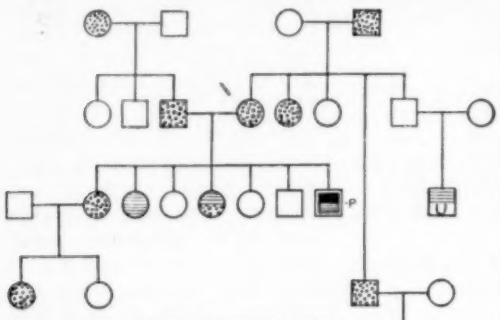

CHART 2 SHOWING HOW MIGRAINE AND URTICARIA ARE INTERCHANGEABLE WITH ASTHMA AND HAY FEVER IN THE LINKAGE

If asthma, hay fever, and certain forms of eczema, hives and migraine, are interchangeable in the linkage, it appears to be excellent evidence that they have a common cause, namely, a specific sensitivity to protein.

METHODS OF TESTING FOR FOOD SENSITIVITY

In testing for food sensitivity, the dermal test is the one of choice, but there are certain cases that would be entirely overlooked if intradermal tests were not used. From our experience we are led to believe that food allergy frequently exists in patients who give no reactions to specific foods, even on testing and retesting. It has been our experience that children who are sensitive to food protein give much clearer cut reactions than do adults, due probably to the inactivity of the skin of those over forty years of age.

The reading of skin tests should be very carefully done. There should be a thirty-minute reading, a four hour reading, and a twenty-four hour one, and it must be remembered that many positive reactions are not marked, as we find in the case of pollen or animal dander sensitivity. Those who are not skilled in protein testing frequently doubt the value of skin testing in the diagnosis of allergic diseases, especially in the diagnosis of the ones we are discussing today.

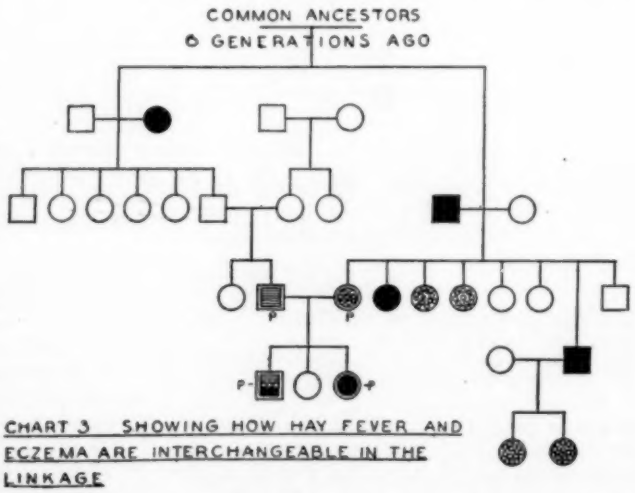

CHART 3 SHOWING HOW HAY FEVER AND ECZEMA ARE INTERCHANGEABLE IN THE LINKAGE

TREATMENT

Treatment in those cases found specifically sensitive to food, is absolute elimination of those foods from the diet. If a large number of foods are found positive, one must be careful to see that the patient has a well rounded diet left. That is, in the diet there should be at least one

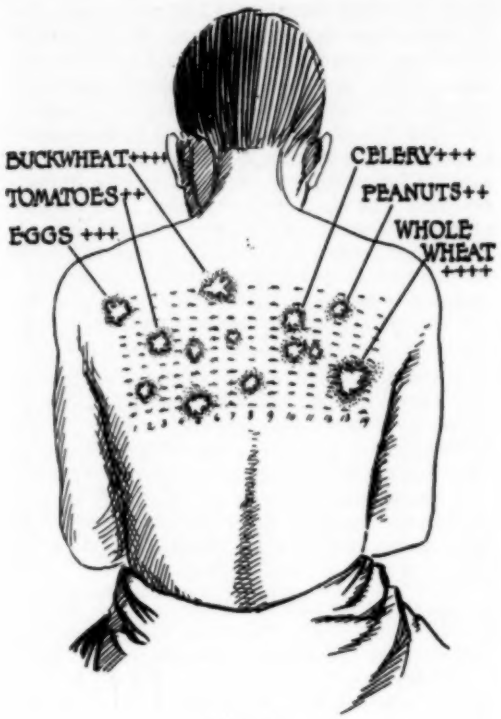

FIG. 2.

AN EXCELLENT AREA OF THE BODY FOR APPLYING FOOD PROTEINS IN DERMAL TESTING.

starch, one protein, one or two vegetables and fruits, and at least one fat. In those cases who are suspected of a specific sensitivity but who are found non-sensitive from a standpoint of tests, eliminative diets on general principles must be used. In case of eczema, the common foods, eggs, milk and wheat, should be first eliminated. In case of hives, the uncommon foods, such as the sea foods, celery, lettuce, nuts, etc., should be first eliminated. One is justified at times in using an eliminative diet that is rather severe for at least a week, and then begin to add one food at a time and have the patient observe the effect of each specific addition, and to exclude those foods that cause trouble.

Food sensitization undoubtedly is the cause of symptoms in many cases of the syndromes we have just discussed. The medical profession and the laity must recognize its importance. I believe the future will unfold to us much more concerning the role it plays in the production of such diseases.

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DIAGNOSIS AND MANAGEMENT OF CORONARY THROMBOSIS

M. A. MORTENSEN, M.D., F.A.C.P.
BATTLE CREEK, MICH.

Coronary thrombosis is gradually becoming recognized as a cardiac disease of frequent occurrence. I will not take the time to speak of all the pioneers in calling attention to its fundamental diagnostic symptomatology. Suffice it to mention the names of such men as Dock, Herrick, Smith, Hamman, and Parkinson who have contributed much to our modern knowledge of this condition.

My object in discussing the subject is to call attention to a few of the outstanding points in diagnosis and early management of these cases. Our attention is constantly called to the sudden death of some prominent individual from acute indigestion or an acute heart attack. No doubt the great majority of these die of coronary thrombosis and death is sudden because the infarct involves a large portion of the myocardium.

In approaching the subject, we must consider coronary disease in its broadest sense. First, it is a common condition in the later decades of life. It occurs in a large percentage of those having arteriosclerosis and is just as likely to be present in those with a comparatively low blood pressure as in those with hypertension. A careful study of your cardiovascular cases will reveal many with extensive arteriosclerosis with low blood pressure. Careful palpation of the arteries may reveal all the evidences necessary, but examination of the retinal vessels will add many having arteriosclerosis to your list.

Coronary disease may also be the result of an acute infection producing a localized endarteritis resulting in coronary occlusion. Rheumatic endocarditis may involve the aortic ring and may extend from the valves to the mouths of the coronaries, producing a slowly progressive occlusion resulting in death by infarction. Syphilis often involves the aortic valves and extends into the aorta and coronaries, terminating in a similar end result. These conditions occur with moderate frequency but the greatest number are recruits from that great group of individuals having arteriosclerosis. This, in the course of time, leads to all degrees of coronary degeneration and gradually interferes with myocardial blood supply and efficiency.

Many of these cases develop the angina syndrome that may annoy the patient greatly for many years. In some of them we recognize the focal infections as a factor in aggravating the symptoms of angina, and we have reason to believe that these focal infections play a part in the production of degenerative processes in the coronaries. Quite frequently we find that removal of infected teeth or tonsils relieves the patient of the angina syndrome. The relief, however, must not be regarded as permanent; nevertheless it may last over a period of six or seven years, as in one of my cases. A certain percentage of cases of coronary thrombosis occur among angina patients, but by no means are all so afflicted. In coronary sclerosis a certain number develop a calcification that becomes extensive and finally injures the intima and from this point a thrombus spreads and results in a thrombosis with infarction. Once in a while acute inflammation of the vessels and surrounding tissues occurs, producing the same final result.

DIFFERENTIAL DIAGNOSIS

In view of the fact that many cases of coronary thrombosis develop in the patient with angina, it is very important to differentiate very promptly between the two conditions. In discussing this phase of the subject I want to emphasize the fact that arteriosclerosis is the most common basis for coronary disease and that it is hereditary, or rather, constitutional in origin. In a series of three hundred cases of arteriosclerosis, 68% gave a positive history of the same disease in one or more ancestors, and another 7% other constitutional diseases. The course of arteriosclerosis usually shows the normal pressure period up to 30 or 35 years of age. This is followed by a fluctuating period that lasts from five to ten years. The period of persistent and progressive hypertension begins at 40 or 45 years of age with beginning changes in the arteries and cardiac hypertrophy. Arteriosclerosis without hypertension begins about the same period but produces less changes in the heart and kidneys than the hypertensive type, or at least they are apt to manifest themselves later. The final results of arteriosclerosis are cerebral arteriosclerosis and apoplexy, angina pectoris, coronary thrombosis, heart failure, renal sclerosis with uremia, and in a certain number diabetes closes the picture of this enormous group of cases. Differential diagnosis between angina and coronary thrombosis is very important though both present a similar fundamental pathology.

Chest pains are common to both conditions. In angina the pain is induced by effort and emotional disturbances, particularly anger. In thrombosis pain may occur with effort or excitement but often develops when the patient is at rest or even asleep. The site of pain in angina is precordial and most frequently radiates into the arms, sometimes into the neck and jaws, or beneath the left scapula. In thrombosis the pain is nearly always substernal and does not radiate as often or as far as in angina. Quite often the pain may be located in the epigastrium and this location, with the accompanying symptoms, becomes a diagnostic pitfall. The duration of pain is important because in angina it usually lasts only a few moments, relief being obtained by rest and relaxation, while in coronary thrombosis the pain may last for hours or even days and usually is relieved only by repeated doses of morphine. The patient with the angina symptoms usually remains quiet in a fixed attitude until distress begins to subside, while the patient with thrombosis is restless and nervous and may insist on being up and down to obtain relief. An attack of angina produces very little, if any, shock, while this may be severe in thrombosis, depending on the extent of the cardiac infarction. Vomiting rarely occurs in angina but is rather frequent in thrombosis. In examination of the patient we find little or no change in the pulse of the angina case, but it is apt to

be small, rapid and occasionally irregular in thrombosis. The blood pressure is nearly always lower in thrombosis, while in angina attacks it is nearly always increased to a considerable extent. Heart sounds in angina are unchanged, while in thrombosis they are muffled and gallop rhythm is often noted. In a few hours a friction rub that is of great diagnostic importance occurs close to the sternum in the third or fourth interspace. About the time the friction rub occurs there is apt to be a slight rise of temperature that often reaches 101° in a few hours. A leukocytosis results and reaches 18,000 to 20,000. These last three findings do not occur in angina and when found are most confirmatory evidence of coronary thrombosis. Soon congestive heart failure begins to manifest itself by basal congestion, and a little later hepatic engorgement is noted, especially in those with extensive infarction, because myocardial efficiency becomes seriously involved.

With these fundamental differential points in mind, one should not fail to recognize cardiac infarction, especially with the last symptoms well established. However, I want to emphasize the great importance of considering coronary thrombosis in the arteriosclerotic with epigastric pain. Look for a drop in blood pressure, a wobbly pulse and the pericardial friction rub before concluding that you have an acute abdomen needing surgical attention. Surgery in cases of cardiac infarct has frequently been done in the past, but with a clean-cut array of symptoms such as we have at present, such an error is inexcusable.

Before leaving the question of diagnosis, I want to call attention to a case that recently came under observation. It was one of aortic stenosis of the rheumatic type, where the thickening of the valve ring and its extension to the aorta has gradually produced occlusion of the coronary vessels, causing persistent cardiac pain, at first with exertion, persisting longer afterward than the angina pain, and gradually becoming continuous even with complete rest. The pain finally required morphine for relief and at last the blood supply to a portion of the myocardium failed and infarction took place, resulting in death. This same picture presents itself when syphilitic aortitis finally causes complete occlusion of the coronary orifices.

In some cases of coronary thrombosis hernia, or bulging of the ventricular wall, results from the cardiac infarct. Recently it was my good fortune to discover such a case by means of X-ray of the heart. This patient gave a typical history of all the subjective symptoms mentioned, with slight rise of temperature, congestive failure, and tenderness over the liver, necessitating absolute rest in bed for about a month. The diagnosis of an acute cold and bronchitis had been made. During my observation the patient had a minor secondary extension of cardiac infarct requiring ten days absolute rest in bed. Her blood pressure ranged in the neighborhood of 180 systolic, 105 diastolic.

The usual location of coronary thrombosis is in the anterior descending branch of the left coronary, though any of the coronary branches may be involved.

THERAPEUTIC MEASURES

The therapy and management is of greatest importance the first few days and much will depend on an early correct diagnosis. The treatment for chest pain in the arteriosclerotic is nearly always nitro-glycerine, which is of no value in coronary thrombosis because in this condition the blood pressure is already low on account of myocardial failure and the nitro-glycerine is liable to lower it still further. In view of this and the danger of extending the thrombus by dilating the coronary vessels, its use must be considered at least questionable, if not absolutely dangerous. In one of my cases the blood pressure dropped from 170 to between 80 and 90, as a result of infarction. I have always felt that if I had followed my first impulse and given nitro-glycerine, I might have produced sudden death.

Morphine and absolute rest is the first therapeutic measure to be instituted. The morphine may have to be repeated at first and may be necessary at intervals for several days in order to obtain continued relief from pain. After pain has subsided rest must be insisted on for a period of at least a month and occasionally even three months may be necessary, depending on the reaction of the heart to the infarction and re-establishment of the circulation. After the disappearance of pain and of suspicion of new minor extension of infarcts, the use of digitalis must follow. The moderate tonic dose

should be given over a considerable period of time. I think it important to avoid the full effect of digitalis, because of the danger of the strong contractions sometimes induced resulting in extension of thrombi or the production of emboli that might cause new infarctions. After a certain period fibrosis becomes well established and we must then watch the patient's circulatory efficiency as in any cardiac cripple, regardless of the cause.

SUMMARY

1. Coronary disease in its broadest sense is considered, with the conditions leading to coronary degeneration.
2. That arteriosclerosis, the most common basis for coronary disease, is hereditary or constitutional, is shown by statistics.
3. Differential diagnosis of coronary thrombosis, angina pectoris and aortic stenosis is given.
4. Therapeutic measures are discussed with a warning against the use of nitro-glycerine in cases of coronary thrombosis.

THE OUTSTANDING SCIENTIFIC ACHIEVEMENT OF THE YEAR

For his work in an investigation of the ductless glands and particularly in his isolation of pituitary hormones Dr. Oliver Kamm, director of chemical research of Parke, Davis & Company, manufacturing chemists, has been awarded the $1,000 prize by the American Association for the Advancement of Science for the "most noteworthy contribution to science presented at the annual meeting."

Some 2,000 scientists delivered addresses at this meeting, which was held in New York. The award was announced on January 2, by Dr. Henry Fairfield Osborn, president of the Association.

The isolation of two hormones from the posterior lobe of the pituitary gland, as revealed by Dr. Kamm, is held by chemical scientits to be equal in importance to the isolation of insulin and the discovery of adrenalin.

Dr. Kamm isolated the alpha and beta hormones of the posterior pituitary after twelve years' work in the Parke-Davis Research Laboratories. This, incidentally, is the first time that anyone has demonstrated that one gland might contain more than one hormone.

The alpha hormone is the so-called oxytocic principle. The beta hormone is the blood-pressure-raising principle. Dr. Kamm also showed definitely that the beta hormone has the power of controlling the excessive output of water. His paper before the American Association for the Advancement of Science showed that it has been a mistake to refer to the so-called "renal activity" of pituitary extracts.

The beta hormone does not act upon the kidneys, but controls the utilization of water by the individual tissues of the body.

The usefulness of this beta hormone is now under investigation in diseases characterized by excessive loss of water, such as diabetes insipidus, burns, cholera, other infectious diseases, and surgical shock.

Dr. Kamm points out in his prize-winning paper that much depends upon the ability of the body tissues to retain and utilize water. He said:

"The dangerous symptoms following surgical anesthesia are due mainly to the dehydration of tissues, and the use of beta hormone prevents such desication.

"Following extensive body burns, it has been thought that death results from the absorption of toxins. According to the newer view, however, it may be the result of the desiccation of the body tissues. In such cases, if this were proved true, the use of a drug like the beta hormone might possibly save life by favoring the retention of water in the tissues. It is conceivable that something quite startling might flow from this idea in cases of serious burns.

"Water-intoxication, with its alarming symptoms leading even to unconsciousness, is very rare. The other extreme, that of water-poverty, is rather more common, and is characterized by extreme thirst and excessive elimination of water. This condition, known clinically as diabetes, insipidus, is relieved at least temporarily by pituitary extract, and it has just been found that the beta hormone possesses this remarkable action.

"Although other factors are also involved, it appears that proper hydration is needed for the growth of tissue. In this respect, few of us are absolutely normal. We find that some individuals are extremely sensitive to the action of the beta hormone—they are the 'physiological wets'; while others readily return to normal after administration of the hormone—they are the 'physiological drys'.

"It has just been observed that the fleshy type of individual is almost invariably of the wet type, whereas the slender, scrawny person is usually a dry. The suggestion is therefore made that we have here possibly one of the important explanations as to why the former is fleshy and why the latter fails to gain weight readily in spite of an excessive intake of food and water. It is apparent that the portly person who is desirious of reducing must cut down on his liquid intake, as well as on his intake of sold food. As for the scrawny person, gland therapy may possibly be indicated, but here the work is still in the investigative stage and conclusions cannot be drawn.

"Only a very few grams of highly purified alpha and beta hermones are as yet available. Commercially they are known as pitocin and pitressin, respectively. Although the Parke-Davis Research Laboratories use the methods of micro-analysis, a single laboratory experiment requires the pituitary glands of 50,000 cattle."

In prefacing his address, Dr. Kamm told the American Association for the Advancement of Science, that:

"Man is on the threshold of a great chemical era. As the number of products derived directly from nature is decreasing, the field of synthetic possibilities is continually increasing, and as a result, the possibility of producing new or related drugs will continually increase."

ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER AT DAYTON.

The annual meeting of the American Association for the Study of Goiter will be held this year at Dayton, Ohio, on March 25, 26 and 27. The primary object of this association is to bring together each year men who are especially interested in the study of goiter and its associated problems. Members of state and provincial medical societies are eligible and cordially invited to participate as attending members.

The 1928 meeting, which was held at Denver, was a decided success. Professor B. Breitner of the Von Eiselsberg Clinic of Vienna and Dr. Gulbrand Lunde, professor of biochemistry of Oslo, Norway, were the foreign guest speakers. Drs. H. S. Plummer, S. F. Haines, J. dep. Pemberton and William Boothby of the Mayo Clinic held clinics and presented papers Among the other contributors to the program were W. Blair Mosser of the University of Pennsylvania; W. H. Cole, N. A. Womack and S. N. Gray of Washintgon University, St. Louis; A. E. Hertzles, Halstead, Kansas; J. L. DeCourcy, Cincinnati; Allen Graham, Cleveland; H. M. Clute of Lahey Clinic, Boston; J. Tate Mason of Mason Clinic, Seattle; and Willard O. and P. K. Thompson of the Massachusetts General Hospital Thyroid Clinic.

The first day of the Dayton meeting will be given over to diagnostic clinics in the morning and several short papers during the afternoon chiefly concerned with recent experimental work. On the second day, operative clinics will be held at the Miami Valley Hospital, St. Elizabeth's Hospital and at the Soldiers' Home Hospital. The afternoon of the second day and the morning and afternoon of the third day will be given over to the presentation and discussion of scientific papers.

The headquarters will be at the Hotel Miami. Dr. William A. Ewing is President of the Montgomery County Medical Society under whose auspices the meeting is to be held. Dr. E. M. Ruston is the General Chairman of the Committee on Arrangements. Dr. H. C. Haning is Chairman of the Hotel Committee. All communications in regard to hotel reservations should be addressed to Dr. Haning at the Reibold Bldg., Dayton, Ohio.

PARKE, DAVIS & COMPANY APPOINTS GENERAL MANAGER

Dr. William Lescohier has been appointed general manager of Parke, Davis & Company, according to an announcement made public on January 10 by Oscar W. Smith, president of the company. Dr. Lescohier has been connected with the company for the past twenty years and has most recently occupied the position of assistant to the president. After graduation from the Detroit College of Medicine in 1909 he entered the company's employ as a member of its scientific research staff. In 1918 he was placed in charge of the production of serums, vaccines, antitoxins, and other biological products.

In 1925 he became director of the Department of Experimental Medicine, and in that capacity was in constant touch with physicians and scientific workers in the leading hospitals and medical colleges of the country.

Dr. Lescohier is a Fellow of the American Medical Association and belongs to the American Therapeutic Society and other scientific organizations.

In professional circles the appointment of a physician and research scientist to this important post will doubtless be noted with interest, as the development and manufacture of highly scientific products for physicians' use has constituted the most important division of the company's business ever since its founding, more than sixty years ago.

Parke, Davis & Company are the world's largest makers of pharmaceutical and biological products, with home offices and laboratories in Detroit, Michigan, and with branch laboratories in a number of foreign countries.

Parke, Davis & Company announces the appointment of Dr. Louis Klein as Promotion Manager and Mr. Ralph G. Sickels as Advertising Manager. Both men have been connected with the company for a number a years, Dr. Klein as manager of the department of medical service, and Mr. Sickels as a member of the advertising staff.

THE JOURNAL

OF THE

Oklahoma State Medical Association

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Reprints of original articles will be supplied at actual cost, provided requests for them is attached to manuscripts or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

EPIDEMIC MENINGITIS

Rather severe outbreaks of epidemic meningitis were reported in various parts of Oklahoma in January. Twenty-six deaths were reported in Muskogee County from this disease. It is said only eight of these received specific treatment with serum. It is said the reports from Caddo county, where a similar outbreak occurred, were much more favorable as to mortality. It is charged that the high mortality rate in Muskogee county was due to two factors: Failure, on the part of the family, in many instances, to call a physician until too late for any form of treatment to avail, and, lack of appreciation on the part of the family physician, in some instances, to use proper and modern methods of treatment. Some of these cases were markedly virulent and rapid in their course.

Probably with the exception of the anti-diphtheritic serum in the treatment of diphtheria, no one thing is so effective, seemingly miraculous, often times in its effects, as is the use of anti-meningococcic serum in the treatment of epidemic meningitis. This was thoroughly demonstrated in widely scattered localities in Oklahoma more than fifteen years ago and of course the prompt and efficient administration of this measure in various army hospitals and cantonments during the world war and its consequent brilliant results is already a well known matter of medical history.

There is hardly any excuse, especially after such an outbreak has been widely advertised, for any physician to fail either to make a clinical diagnosis in most cases, or to strongly suspect the existence of the disease when in its presence. When once this is determined there is only one proper course to follow and that is the immediate administration, intraspinally, of the specific and curative serum.

STOP! LOOK! LISTEN!

The Oklahoma State Medical Association will hold its annual meeting in Oklahoma City, May 27, 28, 29, 1929, and a record breaking attendance is expected.

The new medical school building of the University of Oklahoma has been tendered as a meeting place for the various sections as well as an auditorium to care for the general sessions. This will enable you to have easy access to the various sections and go from one place to another without getting from under cover of one roof.

You will see your friends, your classmates and people who have the same problems to meet that you have and you can discuss their various problems. These are as big drawing cards as the scientific part of the meetings.

Monday, May 27th. will be started off with a meeting of the Councillors at 5:00 P. M., and House of Delegates at 8:00 P. M. Thus separating the executive and political part and getting all that out of the way so that nothing will detract from

the scientific and clinical feast which starts on Tuesday at 8:00 A. M.

There will be an innovation in the program which the committee has wisely chosen, to-wit: from 8:00 A. M. to 12 on Tuesday and Wednesday there will be clinics held at the various hospitals here.

From 2:00 to 6:00 there will be meetings of the various sections with good scientific papers.

Tuesday evening from 6 to 8 will be held banquets of Reserve Officers, fraternities, schools, and the general session and President's address.

Wednesday evening from 8:00 to 10:00 general session and scientific orations. After that will be the President's reception and ball which will relieve you of any mental indigestion you may have incurred in the two days of intensive work as there will not be one idle moment.

LEA A. RIELY.

THE 1929 MEETING OF THE STATE SOCIETY

Evidence is accumulating that the next meeting of the State Association will be the most successful in its history. In the first place interest is more wide spread among the physicians of the state and, barring some unforseen circumstance, the attendance will far exceed any heretofore registered.

Verbally and by correspondence, doctors have expressed a desire to be present and are asking particulars. The scientific exhibits will be especially good and much information will be gained by a visit to them. Probably the best part of the program will be the clinics held at the several hospitals, and everyone interested is assured of a splendid program in this respect. Active and earnest members of the profession in Oklahoma City have this feature in charge and there will be ample material well presented. Oklahoma City is used to conventions, hotel faciliteis are ample and the local men are going to lay off from work to see that every part of the program is well conducted. A pleasant and profitable time "will be had by all."

A detailed program will appear in the May issue of the Journal.

DR. A. D. YOUNG.

Editorial Notes—Personal and General

DR. C. A. THOMPSON, Muskogee, was on the sick list two weeks in January and February.

DR. J. H. CASH, Stillwater, is ill at his home, following a stroke of apoplexy two months ago.

DR. O. J. GEE, formerly of Ardmore, has located at 416 Medical Arts Building, Oklahoma City.

CYRIL, OKLAHOMA, wants a physician. Information may be had by writing Our Drug Store, Syril, Oklahoma.

DR. P. F. ROBINSON, for many years a physician in Madill, was made Marshall County health officer by Dr. O. O. Hammonds, receiving his commission January 16th.

DR. F. R. SUTTON, Oklahoma City, has presented the Library of the School of Medicine with a collection of his books, some 140 volumes, late texts—principally surgery.

THE NEW BAPTIST HOSPITAL, Muskogee, was opened to the public, Sunday, February 3, with an appropriate program. Over two thousand visitors passed through the building at that time.

HUGHES-SEMINOLE Medical Society met January 17, at Holdenville, and the following officers were elected for 1929: Drs. A. L. Davenport, president; W. M. Taylor, vice president; T H. Diggs, secretary-treasurer.

OKLAHOMA SKIN AND CANCER CLINIC, successors to Drs. Lain and Roland, announces organization as of January 1st, housed in the Medical Arts Building. The members consist of Drs. E. S. Lain, M. M. Roland, W. E. Eastland, Chas. E. Davis and D. G. Duncan.

At the meeting of the OKLAHOMA STATE MEDICAL ASSOCIATION to be held in Oklahoma City May 27, 28, 29, 1929, the annual play of the Oklahoma State Medical Golfing Association will be held on Monday, May 27, over the Oklahoma City Golf and Country Club course. The match will be a round of 18 holes medal play. The winner to receive a trophy signifying championship for the year 1929. There will also be appropriate prizes for several special handicap matches. All matches to be played with a contestant. Please be prepared to give your "home handicap" to the starter at the first tee.

PENNSYLVANIA MEDICAL JOURNAL, a highly ethical publication accepting no advertising of pharmaceutical compounds not favorably passed by the Council on Pharmacy and Chemistry of the American Medical Association, has very much a problem on its hands. Pennsylvania has several county medical society bulletins which accept questionable advertising, merely to increase their income, advertisements not accepted by their state journal. This has produced a problem. If these bulletins fully realize their function their first act probably would be establishment of a rule to submit practically every pharmaceutical advertisement offered them to the Council before inclusion in their publication.

DR. L. CHESTER McHENRY, Oklahoma City, who has just finished a year's course in otolaryngology at the University of Pennsylvania, and four months as assistant in the Chevalier Jackson Bronchoscopic Clinics, is associated with Dr. D. D. McHenry, Medical Arts Building, Oklahoma City.

THE SMOKE HOUSE POET'S DREAM

The smoke house poet was whooping it up
In the Malamute saloon;
He was rich in funds, and carried a bun
As rare as a day in June.
Then, over the ale, his face turned pale,
He sank, and I heard him snore;
And, this is the dream that the poet dreamed
With his face on the bar-room floor.

He sailed with the Ancient Mariner,
On a search for the Holy Grail,
While the chaplain read o'er the rotting dead
The Ballad of the Readin' Gaol;
And Willie the Weeper sat by his side,
And held in his palsied hand
His chimney swipe, and the lay-out pipe
Of the Girl with the Blue Velvet Band.

The gambling man from Yucatan
While waiting for a bet,
Sat idly there in the vacant chair
With the Girl that Men forget;
Gunga Din, with his bag of skin,
Watered the motley crew,
And Steamboat Bill with a lust to kill
Was shooting at Dan McGrew.

The Lady who didn't understand
And the Man who lived in Hell
Were both on a drunk with the measly skunk
Who had wronged our Little Nell;
And brave Sam Bass, from Eagle Pass,
Was tipping a shot of rye
With the dirty Coward that shot Mr. Howard,
And the girl called Alice Frye.

After the Ball in the darkened hall,
The Smoke House Poet 'rose,
With a head full of aches, and a thousand snakes
Wriggling before his nose.
He hastily felt in his money-belt—
Oh, this tale is sad but true!
The woman that kissed him and pinched his poke
Was the lady that's known as Lou.

—Captain Billy.

DOCTOR J. E. BILLINGTON

Dr. J. E. Billington, pioneer physician of Enterprise, died at his home January 12th, following an attack of heart disease. Dr. Billington was born at Blanville, Kentucky, April 8, 1871. He was 58 years of age. He was graduated from the College of Physicians and Surgeons of Nashville, Tenn.

Funeral services were held January 13, the Rev. J. P. Martindale officiating. Burial was made in the Enterprise cemetery.

Dr. Billington is survived by his wife, a daughter, and two brothers.

DOCTOR J. O. GRUBBS

Dr. J. O. Grubbs, North McAlester, died January 16, 1929, after a brief illness from pneumonia.

Dr. Grubbs was 66 years of age. He was born at Irvine, Kentucky, in October, 1862. His preliminary education was obtained in the common schools. He graduated from Missouri Medical College, St. Louis, in March, 1887. Nearly three-fourths of Dr. Grubbs' long life was spent as a citizen of McAlester.

Funeral services were held January 18, conducted by Rev. E. F. Winkler, pastor of the First Christian Church. Burial was in Oak Hill Cemetery.

Dr. Grubbs was a staff physician at the Albert Pike Hospital, at McAlester; and a member of the Royal Arch Masons and the Knights Templar.

He is survived by his wife and four sons and a daughter.

TUBERCULOSIS

Edited By
L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Pathological Studies On Tuberculosis Enteritis. Benjamin Golberg, Henry C. Sweeney, and Robert W. Brown, American Review of Tuberculosis, December, 1928.

A few of the most important complications of tuberculosis enteritis are perforation, generalized, and localized peritonitis, stenosis, adhesions, diverticula, etc. The findings in 230 autopsies are reported. There were 184 (80%) having enteritis, 119 (51.8%) with severe lesions and 65 (28.2%) with early and unusual lesions. There was one with ulcers from the stomach to the rectum. The duodeuum was involved in 7 (3.8%) lesions from jejunum to sigmoid in 39 (21.2%). From the upper ileum to the sigmoid there were 30 (13%). The greatest number were those extending for a short distance on each side of the ileocecal valve 43 (18.7%). There were two cases with lesions in the appendix only.

There appears to be two types of advanced uncomplicated pulmonary tuberculous that may not have ulcers at death: first those that die of an extremely rapid tuberculous pneumonia and those that die following a long standing fibroid condition.

Peptic ulcers are not uncommon in pulmonary Tb. Six were present in the stomach and two in the duodeumn. Submucous hemorrhages were present in about 20% of the cases. In one case in which the autopsy was performed immediately after death the cardiac end of the stomach was entirely digested and the pylorous was partly digested away.

Perforation is uncommon considering the number and depth of tuberculous ulcers. Usually the omentum seals the rupture or an adjacent loop of bowel or the body wall helps to close over the breach in many cases, but occasionally a

rapidly forming deep ulcer perforates with all the symptoms of perforation. The mesenteric lymph nodes were nearly always enlarged. There were 5 fecal fistulae, ranging from a small local perforated appendiceal abscess to the whole peritoneal cavity. Meckels diverticulum was present in three cases, two were tuberculous. Stenosis of the colon was present twice.

Incipient lesions are found most frequently, first in the lymphoid tissue above the ileocecal valve; second, in the cecum at the point where the food current strikes the cecum; third, on the margin of the ileocecal valve; and very rarely in isolated points in the ileum or colon. The early lesion does not look like a specific process. The first signs are of the acute inflammatory type with a hemorrhagic and serious exudation with large numbers of polymorphonuclear lencocytes. As the lesion advances, lymphocytes appear and finally a few epitheloid cells. At the time epitheloid infiltration appears the formation of a concrete tubercle is noted in which caseation occurs. Rarely are giant cells found in the acute and progressive lesions, but are occasionally seen in lesions of the stationary or retrogressive type.

Observation On Some Cardiac Lesions Coincident With Pulmonary Tuberculosis. I. D. Bronfin, and Saling Simon, American Review of Tuberculosis, December, 1928.

The coincidence of valvular heart disease and pul-Tb. is not as rare a condition as is generally supposed. Dyspnea out of proportion to the pulmonary involvement, especially when there are no constitutional symptoms, should arouse the suspicion of an existing cardiac affection. The absence of murmurs does not exclude the possibility of grave valvular affections. According to Broadbent a murmur is rarely present in the third stage of mitral stenosis. Pressure pain in the epigastruim gaseous eructations followed by temporary relief from the epigastric distress, paroxysmal attack of dyspnea and cough, fatigue on the slightest exertion, disinclination or inability to concentrate on a physical or mental effort and other well known so called neurotic symptoms may be due as much to early cardiac decompensation as to active pulmonary Tb.

Six cases are presented, three with mitral stenosis, one mitral insufficiency, one a valvular abnormality in the aortic or pulmonic valve, and one a left bundle branch block. All had cardiac symptoms. Of the four mitral cases, 3 had therapeutic pneumothorax. In one case with mitral stenosis and far advanced, chronic, moderately active tuberculosis, involving the greater part of the left lung with apical cavitation, and the right upper lobe, artificial pneumothorax was instituted on the left side as an emergency procedure to control hemorrhage in January, 1927. A fairly satisfactory collapse was finally obtained, but the apical cavity could not be closed on account of adhesions. On May 14, 1927, she had another brisk hemoptysis. The right apex was under suspicion, but the roentgen plates failed to disclose the source of the bleeding. The latter persisted for a week. Under large doses of digitalis cardiac action improved and the bleeding finally ceased, but she continued to pursue an unfavorable course, manifesting symptoms and signs characteristic of right heart failure. The hemoptyses were probably caused primarily by the stenosis and not by the ulcerations in the lung. The pneumothorax failed to influence the course of the pulmonary lesion and unquestionably hastened cardiac decompensation.

The incidence of valvular lesions in pulmonary Tb. recognizable clinically, is about 6% in the experience of the authors. Artificial pneumothorax, when indicated in such cases, should be administered with great caution. Complete bed rest must be rigidly enforced for a longer period of time than in cases uncomplicated by heart disease. The electrocardiogram often aids in determining the cause of obscure cardiac symptoms.

The Evolution of the Modern Treatment of Pulmonary Tuberculosis. Charles L. Minor, American Review of Tuberculosis, December, 1928.

The author briefly reviews the evolution of treatment since the time of Laennec, and more especially during the last 40 years. The first step was taken in the 1850's when Brehmer evolved the hygienic, dietetic and Sanatorium treatment which will always be connected with his name. The faults of his treatment were later corrected by Dettweiler at Falkenstein and because the basis of our modern treatment. In 1882 Koch discovered the bacillus tuberculosis and continuing his researches, before long offered the world a new remedy—Tuberculin. It was met with much enthusiasm and greeted every where, yet today the question of its value and the indications for its use are still subjects for debate and still unsettled. About the same time that Koch was carrying out his experiments, there developed in Italy what has proved to be one of the most brilliant advances ever made in phthisiotherapy. This was Forlanin's artificial pneumothorax, first brought out in 1884 the profession was slow to recognize or adopt it, though Murphy of Chicago in the nineties did excellent original work on it. Near the end of the last century surgeons, led at first by Tuffier in France and later in Germany by many able workers among whom Sauerbruch stands preeminent, began to develop pulmonary surgery. We have in thoracoplasty, apicolysis phrenecotomy and phrenicoexairesis, well planned measures with a moderate mortality, which have added to the list of curable cases a further number of hitherto utterly hopeless cases.

During all of these years drugs, which were at first recognized part of the therapeatics of Tb. have been steadily losing ground save as adjuvants or as symptomatic remedies, when they can be invaluable. With heliotherapy, brilliant results have been obtained in surgical and lymph-node Tb. and reflected sunlight often gives favorable results in tubercular laryngitis, but it is not advocated in pulmonary cases and most men consider that it is likely to activate sleeping trouble and do harm.

Osler's dictum may be quoted in regard to climate, "care without climate is better than climate without care." Although there are types of cases in which climate has a favorable effect.

The most important feature in the treatment is **Rest** and later there comes a time when exercise must be begun and increased and it takes skill and experience to know when this time is. Thus the crux of the situation is the proper use of those two things, rest and exercise. Psychotherapy is another element which is essential in

the treatment of pulmonary Tb. Fill our patient's heart with hope and we double the fighting force of every cell in his body. Teach him to smile and we wake up a sunlight in his heart which is the best heliotherapy. Rouse his will power to fight with us and our task at once becomes easier.

DERMATOLOGY AND RADIOTHERAPY

Edited by C. P. Bondurant, M.D.
413 Medical Arts Building, Oklahoma City

Recurrent Herpeszoster: A. L. Skoog, J. A. M. A. 91:791, September 15, 1928

Dr. Skoog reports a patient who had herpeszoster and tabes dorsalis. The patient had recurrent attacks of herpeszoster at about six weeks intervals lasting over a period of three years, his attacks always occurring during an attack of gastric crisis. The second sacral segmental area was involved each time. The lesion was either on the right or left side and frequently it was bilateral, the attacks running the usual course. The report embodies the case history with good photographs and a critical review of the literature, with special reference to the frequency of recurrence of herpeszoster, the etiology and the relationship between herpeszoster and syphilis. In the author's conclusions he states that syphilis favors the possibility of the development of herpeszoster and he accepts the theory that some organism produces ganglionitis and secondarily the eruption. He is of the opinion that in a certain number of cases there is some additional etiologic factor such as, trauma or neighborhood disease such as tuberculosis or malignant neoplasms.

A Case of Pellagra Following Voluntary Reduction of Diet. Paul S. Carley, J. A. M. A., 91: 879, September 22, 1928.

Because of indigestion Dr Carley's patient limited her food so that her diet was made up chiefly of cooked cereals. After one year of such dietary management she developed the early symptoms and finally more marked symptoms which led to a diagnosis of pellagra. The treatment consisted of an ordinary unrestricted diet to which two cakes of dried brewers yeast were added each day. After one month the skin symptoms including both the dermatitis and mouth lesions had completely disappeared and in a few weeks all other evidence of pellagra was gone.

Experimental Creeping Eruption From a Dog and Cat Hook Worm. Bedford Shelmire, J. A. M. A., 91:938, September 29, 1928.

This work reports a critical review of the literature and the results of experimental work done with larvae of the cat and dog hook worm. Creeping eruption has been found to be caused by four different parasites but the author is of the opinion that the ordinary form of creeping eruption seen in this country is caused by infected larvae of Ankylostoma brasiliense, and that the infection makes its entrance into the skin from moist sand and similarly contaminated earth by the excreta of cats and dogs harboring the hook worm. The author contaminated eighteen volunteers with a pure culture of the Ankylostoma brasiliense larvae from one adult female worm. It was noted that the clinical manifestations were indistinguishable from the ordinary spontaneously acquired case. Intercurrent infections in two patients accounted for the development of high fever after the creeping eruption was definitely retarded. There was no evidence either microscopic or clinical of intestinal infection with the parasite. A slight increase in the eosinophil count was the only change noted in the blood picture. This excellent article includes a detailed report of all experimental work both laboratory and clinical and gives some good photographs.

Ingrowing Hairs. G. Weninger, Ann. de dermat. et syph. 9:687, August, 1928.

Weninger has studied this common papular and papulopustular disorder of the bearded region. He finds the lesion to be the reaction of the body to the effect of a foreign body embedded in the skin. This foreign body is the distal portion of the hair. In this study he has noted a familial and hereditary tendency towards occurrence. He also believes that the underlying cause is an exaggerated obliquity of the hair. In severe cases he suggests manual epilation.

Hyperkeratosis of the Extremities in Cold Weather. R. Barthelemy, Ann. de dermat. et syph. 9:681, August, 1928.

The author states that this minor ailment is not mentioned in any representative French text book although it deserves to be. It is first noticed with the onset of the cooler months and is manifest by a thickening of the skin of the pulp of the finger and is followed by a superficial desquamation which leaves a pink thin surface. This surface may partly be covered by a loosely adherent scale. In some instances however the surface may remain slightly thickened, less movable than normal, and rough. Small fissures also may be noted. The condition may involve other areas of the hand. The feet may also be slightly changed in this same manner but here the trouble is less marked. Besides this type there is a definite type which shows a fissure and subungual hyperkeratotic variety. With the return of warmer months the condition completely disappears. Most of these patients normally have a mild form of ichythosis or an abnormally dry skin. This predisposing factor is accentuated by the well known vasoconstrictor action of cold. Treatment consists in the employment of physiotherapeutic measures, protection from the cold, oily injunctions, and bella donna internally.

Paraffinoma of the Arm with Metastases to the Thighs. L. Hufnagel, A. Hufnagel and de Nabias, Bull. Soc. franc. de dermat. et syph. 35: 488, 1928.

After a patient had received a considerable number of injections in the arm of camphorated oil he was observed five years later to have developed a number of indurations of the thighs. Similar nodules appeared four years later on the arm. Both the lesions of the arms and legs were painful. Sections from both extremities showed the characteristic pathologic pictures of paraffinoma. Metastasis of these lesions have been previously reported but it is difficult to account for it. In this case syphilis may have been an etiologic factor.

Use of Epinephrine in Allergic Diseases. R. M. Balyeat, J. Lab. & Clin. Med. 13:1019, August, 1928.

Dr Balyeat gives the results of many cases of asthma, hay fever, and urticaria in which he has had good results in treatment with epinephrine. He gave moderate sized doses of the drug in true cases of asthma complicated with hypertension and in cardiorenal cases and found systolic blood pressure to be but little changed. In at least 40% of cases of hay fever systematic reactions are encountered. Dr. Balyeat states that by making use of epinephrine the dosage can be carried sufficiently high to give relief to those patients suffering from hay fever and asthma. He calls attention to the fact that when epinephrine is once used for this purpose it must always be used for a temporary relief of acute attacks of urticaria due to food poisoning, serum sickness, or bites from insects, epinephrine in from 6 to 12 minim does will usually give desired results. If in cases of sting from insects or idiosyncrasies to food or drugs there are symptoms of severe abdominal pain with swallowing of the tongue or soft palate, the dosage of epinephrine then should be given in from 10 to 15 minims hypodermatically and the throat should be swabbed with a 1 to 1000 solution. For the relief of the asthmatic attack the best results are obtained by giving the epinephrine at the beginning of the symptoms and not after the patient has wheezed for three or four hours.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Meniere's Disease: Its Diagnosis and a Method of Treatment: Dandy, W. E., Arch. Surg., 1928, xvi, 1127.

In this article Dandy proposes a new treatment for Meniere's disease consisting of intracranial section of the acoustic nerve on the affected side. He reports nine cases so treated. At the time of the report, from three months to three and one-half years after the operation, all of the patients were free from the characteristic attacks.

The author emphasizes the necessity of selecting only true cases of the disease for operation. All of his patients had had attacks of severe dizziness and unilateral tinnitus coming on very suddenly without warning. In true Meniere's disease the tinnitus usually persists after the attack, and there is generally a unilateral loss of hearing of varying degree. The character of the dizziness may vary; nausea and vomiting may or may not be present. Contrary to the general belief that Meniere's disease primarily involves the semicircular canals, Dandy found that the acuity of response to caloric stimuli was unimpaired in three cases and only slightly reduced in one case.

In so-called pseudo Meniere's disease, when the attacks occur without deafness or lateralized tinnitus, the operation described is of course not feasible.

A differential diagnosis from brain tumor, especially in the region of the acoustic nerve, is made upon the basis of the absence of increased intracranial tension and the absence of involvement of other cranial nerves. In Meniere's disease, moreover, the dizziness occurs in attacks with free intervals between them, while in cases of tumor, the dizziness is more or less constant.

Particularly because of the fact that both the vestibular and cochlear functions of the eighth nerve are impaired in varying degrees in this disease and no cases are on record in which there was loss of vestibular function without impairment of cochlear function, Dandy believes that the disturbance in Meniere's disease lies within the nerve itself and not primarily in the semicircular canals. It is indeed upon the strength of this belief that he bases the rationale of his treatment, a rationale borne out by the excellent results obtained in all of his nine cases.

The Lynch Type of Radical Frontal Sinus Operation: Anderson, C. M., Minnesota Med., 1928, xi, 461.

In suppurative frontal sinusitis, the Lynch type of operation is satisfactory. The cosmetic effect is excellent. If there are complications such as a draining fistula, destruction of the external table of the frontal bone as a result of previous operative procedures, disease, or a marked tendency toward polyposis, a more radical type of operation is indicated. If the fistula is situated in the upper lid or sequestration of the floor of the frontal sinus is present, the Lynch type of operation gives excellent results. When the sinus has not been entirely obliterated the chief difficulty in all external operations is a tendency of the new nasofrontal duct to close. This can be obviated to a great extent by the use of dilators.

The Etiology of Trachoma: Noguchi, H., J. Exper. Med., 1928, xlviii, Supp. 2.

In an investigation to determine the cause of trachoma the author used material obtained from untreated well-advanced cases of trachoma in students attending the Government School for Indians. The ordinary bacteria isolated and cultured on various media did not induce trachoma when directly inoculated into the lids of monkeys, a chimpanzee, or an ourang-utan, but an associated bacterium, designated by Noguchi as "bacterium granulosis," caused a persistent granular conjunctivitis which closely resembled and was apparently identical with trachomatous granular conjunctivitis in man and was followed by a spontaneous infection of the eye not injected.

The next step in the investigation was to determine the possibility of direct transference of the disease from monkey to monkey. Attempts at such transference were successful in twenty-one cases, doubtful in one case, and unsuccessful in one case.

The bacterium granulosis can be recovered from inoculated animals and has been found in microscopic examinations of monkey and human tissue.

From these determinations the author concluded that the bacterium granulosis is the inciting agent of trachoma in man and of granular conjunctivitis, the analogous condition, in monkeys.

Ultraviolet Light in the Treatment of Ophthalmic Disease . II, Local Phototherapy: Duke-Elder, W. S., Brit. J. Ophth, 1928, xii, 353

The action of ultraviolet light is primarily destructive. Following exposure of living tissue to ultraviolet rays, there is a photochemical denaturation of the cell and later a coagulation of its

proteins, i.e., a destruction of the cell which is partial or complete according to the amount of radiation. Subsequently, the neighboring cells attempt to repair the injured cells. This active response occurs in practically all superficial living tissues.

In the case of the avoscular crystalline lens, however, repair is comparatively lacking, the damage tends to be cumulative, and coagulation of the cells results in cataract. Duke-Elder says that when the radiation is not of sufficient intensity to produce a cataract immediately, changes occur in the colloid system of this tissue which render the proteins more liable and favor their subsequent coagulation by other influences. Small doses tend to produce a complicated cataract.

In the case of the tissue behind the lens, ultraviolet light treatment is useless since wave lengths in this part of the spectrum cannot pass through both the cornea and the lens.

The size and direction of the beam, the intensity of the irradiation, and the time of exposure must be accurately controlled, and the dosage must be kept below that which will produce an erytheme of the skin. The sensitivity to the treatment varies with the individual.

The author discusses at length the biological action of ultraviolet light on the various tissues, normal and pathological, and recommends ultraviolet light treatment especially for old indolent and recurrent corneal ulcers, severe hypopyon keratitis, recurrent phlyctenulosis, tuberculous conjunctivitis, and trachoma.

A New Modification of the Radical Operation on the Mastoid. Preliminary Communication: Ross, E. L., and Joyce, W. M. Arch. Otolaryngol., 1928, vii, 583.

The authors report their technique and results in the use of a pedicled skin graft with an attached larger area of periosteum to line the cavity of a mastoid which has been operated upon radically.

The flap is taken from the skin posterior to, and parallel with, the original incision. After the bone work has been finished a second incision parallel with, but 1-2 in. posterior to, the first incision is made through the skin, the skin is elevated posteriorly for 1-4 in., and the periosteum is then incised. Before the tip is detached, an area at the base which will lie between the edges of the wound is thoroughly denuded down to the vascular papilla of the corium. After the tip has been cut through, it is placed over the eustachian tube opening. The entire posterior wall of the canal is turned up and sutured with a silkworm ligature through the posterior auricular fold. The wound is closed without tension by dissecting the skin up posteriorly for about 3 in. A light iodoform gauze packing is left in for about three days.

This procedure results in a dry epithelized cavity.

The Histology and Pathology of the Articulation of the Auditory Ossicles.: Druss, J. G. Arch. Otolaryngol., 1928, viii,, 56.

The articulation of the malleus and incus and stapes usually consists of four layers in each ossicle: (1) a bony layer; (2) a calcified cartilage layer; (3) a hyaline cartilage layer, and (4) a terminal layer. Three of the layers are more or less constant but the fourth is variable.

Ankylosis of the ossicles is comparatively frequent and may be considered a phylogenetic variety.

In the author's opinion, the articulation is a symphysis instead of a true joint.

In only one of thirty-seven ears examined was suppuration found within the joint. This was probably due to the resistance capsule surrounding the joint.

The article contains photomicrographs showing preparations.

Air Embolism of the Retinal Vessels: Barkan, H. Arch. Ophth., 1928, lvii, 402.

In spite of the number of operations on the chest that are being performed today, air embolism is uncommon. Many patients have complained of visual disturbances following chest surgery, but few observations of the ocular fundi under such circumstances have been made. In rabbits, Barkan noted the appearance of several rod-like silvery particles shooting along the retinal arteries and causing the whole arterial tree to shine brilliantly.

Barkan reports the case of a man thirty-five years of age who had several attacks of blindness lasting from twelve hours to six days following the removal of a piece of bone from a bronchus. Several months later the fundus was found negative, but the fields showed relative and positive scotomata.

DR. A. L. SKOOG

—wishes to announce the resumption of consultations for nervous and mental cases after some months of visiting and work in several European clinics. Returning home February, 1929. Out-of-town consultations considered.

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Alfalfa	J. Wendall Mercer, Cherokee	L. T. Lancaster Cherokee
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Beckham	Edwin Conner, Erick	T. J. McGrath, Sayre
Blaine		
Bryan		
Caddo	E. W. Hawkins, Carnegie	Chas. R. Hume, Anadarko
Canadian	J. E. Phelps, El Reno	A. L. Johnson, El Reno
Carter	J. C. Best, Ardmore	F. A. Harrison
Cherokee		
Choctaw	Reed Wolfe, Hugo	J. D. Moore, Hugo
Cleveland		
Coal (See Atoka).		
Comanche		
Craig		
Creek	O. C. Coppedge, Bristow	J. Clay Williams, Bristow
Custer	J. T. Frizzell, Clinton	E. E. Darnell, Clinton
Garfield		
Garvin	W. P. Greening, Pauls Valley	N. V. Lindsey, Pauls Valley
Grady	W. R. Barry, Alex	R E. Emanuel, Chickasha
Grant		
Greer	J. T. Lowe, Mangum	J. B. Hollis, Mangum
Haskell		
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Jackson	E. W. Mabry, Altus	C. J. Spears, Altus
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Kay	J. C. Wagner Ponca City	A. C. Krammer, Ponca City
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LeFlore		
Lincoln	J. W. Adams, Chandler	J. M. Hancock, Chandler
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Mayes		
McClain	I. N. Kolb, Blanchard	O. O. Dawson, Wayne
McCurtain		
McIntosh		
Murray	O. W. Sprouce, Sulphur	H. C. Bailey, Sulphur
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Washita		
Woods		
Woodward		

NOTE—Corrections and additions to the above list will be cheerfully accepted.